THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET, WESTRAND LONDON TELEPHONE NUMBER—GERRARD 5356

No. X. OF VOL. I., 1916.
No. 4827. Vol. CXC. LONDON, SATURDAY, MARCH 4, 1916. Price 6d.

BONESETTING and the TREATMENT of PAINFUL JOINTS.

By FRANK ROMER, M.R.C.S., L.R.C.P., and L. ELIOT CREASY, M.R.C.S., L.R.C.P.

Crown 8vo. 1s. net.

"Messrs. Romer & Creasy strip this branch of practice of the cloud of mystery and miracle which has been thrown around it by interested people and well-meaning, but ignorant supporters. They effectually disprove the foolish charge that the medical profession has wilfully ignored the subject, and they have dealt with it in an unprejudiced spirit. Moreover, they bear witness to the fact that the profession keeps an open mind as to everything connected with the treatment of disease and the relief of pain and physical disability, and is willing to learn from any source anything that may seem likely to be useful for these purposes."—BRITISH MEDICAL JOURNAL.

James Nisbet & Co., Limited, 22, Berners-street, W.

DISEASES OF THE STOMACH.

By W. SOLTAU FENWICK, M.D.

CANCER AND TUMOURS. Royal 8vo. 10s. 6d.

ULCER AND ITS CONSEQUENCES. Royal 8vo. 10s. 6d.

London: J. & A. Churchill, 7, Great Marlborough-street, W.

Now Ready. Pp. xi. + 269. With 3 Charts. 5s. net.

ON ALCOHOLISM: Its Clinical Aspects and Treatment.

By FRANCIS HARE, M.D., Medical Superintendent of the NORWOOD SANATORIUM, Beckenham.

"Marked by candour, common sense, and moderation ..... likely to become the standard text-book."—BRITISH MEDICAL JOURNAL.

London: J. & A. Churchill, 7, Great Marlborough-street.

BY P. LOCKHART MUMMERY, F.R.C.S.

DISEASES OF THE COLON AND THEIR SURGICAL TREATMENT.

Numerous Illustrations and Coloured Plates. 10s. net.

Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

By SAMUEL WEST, M.D., F.R.C.P.

DISEASES OF THE

ORGANS of RESPIRATION.

"It is worthy of British Medicine and of the great School in which the author is a teacher."—BRITISH MEDICAL JOURNAL.

Griffin & Co. 2nd Edit. 2 Vols., 36s. net, with numerous illustrations.

By H. BELLAMY GARDNER, M.R.C.S., L.R.C.P. Lond.

A MANUAL OF SURGICAL ANÆSTHESIA.

Second Edition. 232 pages, 36 Illus., 8 Plates. Price 7s. 6d. net.

London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

TWO PRACTICAL GUIDES TO RATIONAL PSYCHOTHERAPY.

By EDWIN L. ASH, M.D. LOND.

HOW TO TREAT BY SUGGESTION.

Giving directions for various methods, with cases. 1s. net.

MENTAL SELF-HELP. Second Edition. 2s. 6d. net.

LANCET.—"Much of the advice herein contained is excellent."

London: Mills & Boon, Ltd., 49, Rupert-street, W.

BY ERNEST CLARKE, M.D., F.R.C.S.,

Consulting Surgeon to Central London Ophthalmic Hospital, &c.

ERRORS OF ACCOMMODATION AND REFRACTION OF THE EYE.

Third Edition. With 86 Illustrations and Coloured Plates. Price 5s. net.

"..... This book is one of the best."—PRACTITIONER.

London: Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden, W.C.

BRONCHIAL ASTHMA: ITS PATHOLOGY AND TREATMENT.

By J. B. BERKART, M.D., Late Physician to the City of London Hospital.

Third Edition. Revised. 8vo. 5s. net.

"The work is a splendid summary of the present-day knowledge of the disease."—WEST LONDON MEDICAL JOURNAL.

By the Same Author.

NERVOUS ASTHMA: ITS PATHOLOGY AND TREATMENT. 8vo. 2s. 6d. net.

Of all Booksellers.

London: Humphrey Milford, Oxford University Press, Amen Corner, E.C.

By FREDERICK J. McCANN, M.D.Edin., F.R.C.S.Eng., Surgeon, Samaritan Free Hospital for Women, London, N.W.

CANCER OF THE WOMB: ITS SYMPTOMS, DIAGNOSIS, PROGNOSIS, AND TREATMENT.

Fully illustrated. 20s. net.

LIVERPOOL MEDICO-CHIRURGICAL JOURNAL.—"Cancer of the Womb, by F. J. McCann, is a book that can be recommended alike to the general practitioner and the specialist. Written in a fluent manner, it embodies the ripe experience of a renowned operator, trained observer, and patient investigator."

EDINBURGH MEDICAL JOURNAL.—"The book is one of very great merit; it will be read with interest both by the specialist and general practitioner as an authoritative exposition of the important subject with which it deals."

PRACTITIONER.—"Dr. McCann has produced a valuable work which deserves to be widely known."

ST. BARTHOLOMEW'S HOSPITAL JOURNAL.—"The plates are excellent. This is a book we can thoroughly recommend."

London: Henry Kimpton and Hodder & Stoughton.

IN THE PRESS. With 150 Illustrations.

By CHARLES J. HEATH, F.R.C.S. Eng., Late Surgeon to the Hospital for Diseases of the Throat, Golden-square, London.

AURAL SUPPURATION: ITS ARREST, WITH PRESERVATION OF THE HEARING.

The indications for performing the author's conservative mastoid operation.

London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

NOW READY. Price 1s. 6d. net; post free 1s. 8d.

HÆMATURIA, A SYMPTOM: Its CAUSES and DIAGNOSIS. By DAVID NEWMAN, M.D., &c., Consulting Surgeon to the Royal Infirmary, Glasgow.

Glasgow: Alex. Stenhouse, 40 & 42, University Avenue.

London: Henry Kimpton, 263, High Holborn, W.C.

FAITH, MEDICINE, AND THE MIND.

A Manual of Hypnotism and Suggestion.

By CHARLES REINHARDT-RUTLAND, M.D.

Third Edition, with an Introduction by Sir OLIVER LODGE, F.R.S. Price 2s.

The London Publicity Co., Ltd., 83A, Chester Square, London, S.W.

JUST PUBLISHED. With numerous Illustrations. Royal 8vo. Price 10s. 6d. net.

THE ENDOCRINE ORGANS:

AN INTRODUCTION TO THE STUDY OF INTERNAL SECRETION.

By Sir EDWARD SCHAFER, LL.D., D.Sc., M.D., F.R.S., Professor of Physiology in Edinburgh University.

Prospectus sent on application.

Longmans, Green & Co., 39, Paternoster Row, London, E.C.

BY C. MANSELL MOULLIN, M.D.Oxon., F.R.C.S., Consulting Surgeon to the London Hospital.

Fourth Edition.

ENLARGEMENT OF THE PROSTATE. Price 6s.

London: H. K. Lewis & Co., Ltd., 136, Gower-street.

WHEN to OPERATE in INFLAMMATION of the APPENDIX.

Third Edition now ready. Price 2s. 6d.

London: J. Bale & Danielsson, Ltd., 83-89, Gt. Titchfield-street.

Third Edition. Pp. x. + 466. Price 10s. 6d. net.

SYPHILOLOGY and VENEREAL DISEASE.

By C. F. MARSHALL, M.D., F.R.C.S., Formerly Resident Medical Officer to the London Lock Hospital, &c.

"A compact and comprehensive treatise which contains all that the practitioner is likely to want."—MEDICAL PRESS AND CIRCULAR.

London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

Now Ready. Crown octavo. 56 pp. Illus. Price 1s. net; by post 1s. 2d.

NOTES ON MILITARY ORTHOPÆDICS.

By PAUL BERNARD ROTH, M.B., F.R.C.S., Captain, R.A.M.C. Special Reserve; Surgeon, Kensington General Hospital, &c.

Henry Kimpton, 263, High Holborn, London, W.C.

THE LANCET is registered as a Newspaper. All rights reserved.

"ASEPSO" (Regd.)

3% BINIODIDE MERCURIAL SOAP

1/- PER TABLET.

THIS IS WITHOUT DOUBT THE MOST POWERFUL GERMICIDAL SOAP MADE.

Surgeons and Gynæcologists who carry this soap find that they need not carry Mercuric Unguents.

EACH TABLET BEARS A 3d. GOVERNMENT STAMP.

EDWARD COOK & Co., Ltd., Bow, LONDON, E.

"LESLIES' ZINCOPLAST"

A MUCH IMPROVED MAKE OF ZINC OXIDE PLASTER. STRONGLY SELF-ADHESIVE; NON-IRRITATING; DOES NOT DRY UP.

May be obtained on White or Pink Tinted Cloth, 5 yd. or 10 yd. spools, in all the usual widths.

Medical Officers and Pharmacists are invited to write for Trial Sample.

LESLIES' Original Brown Holland Surgical Strapping (DOES NOT SLIP).

In General Hospital Use since 1875. Has a World-wide Reputation.

LESLIES, Ltd., 18, Eldon Street, London, E.C.

VALENTINE'S PREPARATION
NUTRIO PRIME
MEAT JUICE.
The result of an original Process of Preparing Meat, and extracting its Juice, by which the elements of nutrition are obtained in a state, ready for immediate absorption.
DIRECTIONS—Dissolve one teaspoonful of the Preparation in two or three tablespoonfuls of cold or warm water. The use of boiling water changes the character of the preparation.

Valentine's Meat-Juice

For **Quieting** the **Irritable Stomach in Pregnancy**, for **Rapidly Restoring** the **Vital Forces** in **Hemorrhage**, for **Sustaining** and **Strengthening** in **Long** and **Exhausting Labor**, **Valentine's Meat-Juice** is Extensively employed in

Obstetrical Practice

Dr. M. DeCristoforis, *Prof. Lecturer on Midwifery and Gynaecology, Milan, Italy:* "The preparation, VALENTINE'S MEAT-JUICE, has been successfully used by me in a serious case of acute puerperal hemorrhage. The patient could take no food or drink. VALENTINE'S MEAT-JUICE was completely retained and restored very promptly the strength and the cardiac impulsion."

Dr. E. Duloroy, *Physician Accoucher to the International Hospital, Paris, France:* "A young accouchée, in a very weak condition and suffering from stomach trouble, could retain no food, but was able to assimilate VALENTINE'S MEAT-JUICE given at first in small doses. An improvement was quickly visible, the patient recovered her strength and is today in good health."

For Sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
RICHMOND, VIRGINIA, U. S. A

D 128

THE LANCET.

No. 4827. LONDON, SATURDAY, MARCH 4, 1916. Vol. CXC.

CONTENTS.

The whole of the literary matter in THE LANCET is copyright.

INVESTIGATIONS on Clinical Thermometry: Continuous and Quasi-continuous Temperature Records in Man and Animals in Health and Disease. By G. SIMS WOODHEAD, M.A., M.D., LL.D., Professor of Pathology, Cambridge; and P. C. VARRIER-JONES, M.A., M.R.C.S., L.R.C.P. Lond., Foundation Scholar, St. John's College, Cambridge. (From the Pathological Department, University of Cambridge.) Part V. Observations in Man and Animals.—(*Illustrated*). —(*Concluded*) 495

ORIGINAL ARTICLES.

A Tabular Statement of 500 Abdominal Gunshot Injuries. By CUTHBERT WALLACE, B.S. Lond., F.R.C.S. Eng., Colonel, A.M.S.; Consulting Surgeon, Expeditionary Force, France 502

Diagnosis of Fevers among the Mediterranean Expeditionary Force. By R. ATHELSTANE P. HILL, M.D. Camb., Lieutenant, R.A.M.C. (T.F.), Mediterranean Expeditionary Force; late Physician and Clinical Pathologist to the Union Medical College, Peking 504

The Puerperal Fever Fiction and the Notification Farce. By W. E. FOTHERGILL, M.A., B.Sc., M.D. Edin., Honorary Surgeon, St. Mary's Hospitals for Women; Honorary Assistant Gynæcological Surgeon, Manchester Royal Infirmary; Lecturer in Obstetrics, University of Manchester 506

The Treatment of Septic Wounds with the Simpson Light. By J. A. MENZIES, M.B., C.M. Edin., Honorary Ophthalmic Surgeon, Royal Victoria Hospitals at Dover and Folkestone 508

Diet as a Factor in the Causation of Mental Disease. By CHAS. MERCIER, M.D. Lond., F.R.C.P. Lond., late Physician for Mental Diseases to Charing Cross Hospital.—(*To be continued*) 510

Observations on the Etiology of Sarcoma in the Rat. By ALBERT S. LEYTON, M.D. Cantab., Professor of Pathology, University of Leeds; and HELEN G. LEYTON, M.D. Birm. (From the Department of Pathology of the University of Leeds.) 513

MEDICAL SOCIETIES.

ROYAL SOCIETY OF MEDICINE: SECTION OF OBSTETRICS AND GYNÆCOLOGY:—Exhibition of Instruments.—Labour Obstructed by Ovarian Cyst.—Fatal Rupture of Bladder during Puerperium. —Chorion-Epithelioma following Vesicular Mole.—Presidential Address 514

SECTION OF DERMATOLOGY: Exhibition of Cases 514

ÆSCULAPIAN SOCIETY: Exhibition of Skiagrams and Cases 515

REVIEWS AND NOTICES OF BOOKS.

The Roentgen Diagnosis of Surgical Lesions of the Gastro-intestinal Tract. By Arial W. George, M.D., and Ralf D. Leonard, A.B., M.D.. 515

Précis de Pathologie Interne ... 515

Back Injuries and their Significance under the Workmen's Compensation and Other Acts. By Archibald McKendrick, F.R.C.S. Edin., &c. 516

The Child: His Nature and Nurture. By W. B. Drummond, M.B. Edin. 516

LEADING ARTICLES.

HEALTH OF ARMIES IN PEACE AND WAR 517

STATISTICS OF DEATHS FROM VIOLENCE 518

ANNOTATIONS.

The Health of Female Munition Workers 519

Pulmonary Tuberculosis in the Army 519

Measles and District Nursing... 520

Postural Activity of Muscle and Nerve 520

Home Problems after the War.. 521

Tuberculosis in the Pig 521

Deafness and Mutism due to a Shell Explosion Cured by Inhalation of Ether 522

The Purification of Vaccine Lymph 522

War Shock in the Civilian 522

Amœbic Dysentery 523

The Loss of the *Maloja* 523

VITAL STATISTICS:

Health of English Towns..... 527

Health of Scotch Towns 527

Health of Irish Towns 527

Vital Statistics of London during January, 1916 527

Analysis of Sickness and Mortality Statistics in London during January, 1916 528

SPECIAL ARTICLES.

Health of the United States Army in 1914 524

Central Council for District Nursing in London. First Annual Report: Scheme for the Nursing of Measles and Whooping-cough.—Effect of the War on District Nursing.. 525

The Services: Royal Navy Medical Service.—Army Medical Service.—Royal Army Medical Corps.—Special Reserve of Officers.—Territorial Force.—Deaths in the Services.—Promotions in the Indian Army 526

Scotland: Principalship of the University of Edinburgh.—Central Midwives Board for Scotland.—Morning Consultation Hour Proposed for Dundee Panel Patients 529

Paris: The Health of an Army in War and Peace.—Service of Stomatology at the Front.—Colloidal Gold in Treatment.—Dearth of Thermometers.—A New Stereoscope 530

Notes from India: Anti-tuberculosis Work in Lucknow.—Town Planning 530

CORRESPONDENCE.

Venereal Disease in the Army (Dr. Helen Wilson) 531

Prophylactic Vaccination against Hay Fever (Dr. J. Freeman) 532

Tuberculosis and the War (Dr. Edward E. Prest) 532

The Bacteriology of Cerebro-spinal Fever (Dr. H. Warren Crowe) 533

The Significance of Cervical Capillary Markings (Dr. R. Crawshaw Holt) 534

Iron-Bacteria in Ships' Tanks (Staff-Surgeon Sheldon F. Dudley) 535

Albuminuric Retinitis in Epidemic (Acute) Nephritis (Mr. R. Foster Moore) 535

An Impediment to a Medical Entente (Dr. Alfred S. Gubb) 535

Sister French Memorial Fund (Mr. G. A. Wright, Mr. J. Howson Ray) 536

Clinical Thermometry (Dr. Charles Aldridge) 536

The Coal Smoke Abatement Society (Dr. H. A. Des Vœux) 536

OBITUARY.

Pietro Grocco 536

George Bertram Hunt, M.D. Lond. 537

Richard Milnthorp, M.R.C.S., L.R.C.P. Lond. 537

THE WAR.

The Casualty List 537

Deaths among the Sons of Medical Men 537

The Honours List 537

The Calling-up of Medical Men 538

Vacancies for Medical Officers: 2/1st South Wales Mounted Brigade 538

Health of Munition Workers.... 538

A Red Cross Commissioner for British East Africa 538

Standard of Vision for Commissions in the Army..... 538

MEDICAL NEWS.

A Home for Patients in the Last Stage of Disease..... 513

The Bristol Infant Welfare Association 515

The late Frederic Anthony, L.R.C.P. Lond., M.R.C.S..... 516

Medical Diplomas in a Sale-room 516

Literary Intelligence..... 523

Donations and Bequests 523

Belfast Health Society..... 526

Presentation to a Medical Man 529

Exeter Dispensary 531

Women Dental Students in London..... 536

Child-Welfare in Ireland..... 536

Society of Apothecaries of London: Pass list 538

Royal Free Hospital 538

Queen Victoria Jubilee Convalescent Home, Bristol..... 538

Queen Charlotte's Lying-in Hospital, Marylebone road, N.W. 538

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics: Retrenchment in Public Expenditure.—The Supply of Medical Men 539

House of Lords: Re-examination of Rejected Recruits 539

House of Commons: The Sanitary Section of the Royal Army Medical Corps.—Hospital Accommodation for New Zealand Forces.—Nerve-strained Soldiers.—Medical Students and Military Service.—Medical Officers in Territorial and Base Hospitals.—Distribution of Medical Officers in France..... 539

Appointments 541

Vacancies 541

Births, Marriages, and Deaths.. 541

Books, &c., received 541

Notes, Short Comments, and Answers to Correspondents ... 542

Medical Diary 542

Meteorological Readings..... 543

Acknowledgment of Communications received 544

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

ARNOLD:— PAGE
Beveridge & Wanhill .. The Sanitary Officer's Handbook of Practical Hygiene 5
Cameron .. A Manual of Gynæcology 5
Cowan .... Diseases of the Heart 5
Diseases of Children 5
Dixon ..... Manual of Pharmacology 5
Drummond Physiology for Nurses 5
Howard .... The Practice of Surgery 5
" .... Surgical Nursing and the Principles of Surgery for Nurses 5
Hutchison.. Lectures on Diseases of Children 5
Keith ..... Human Embryology and Morphology .. 5
Martin .... A Surgeon in Khaki.. 5
Melville .... Military Hygiene and Sanitation 5
Saundby .. Old Age: Its Care and Treatment in Health and Disease 5
" .. Urgent Symptoms in Medical Practice .. 5
Savill ..... A System of Clinical Medicine 5
Souttar .... A Surgeon in Belgium 5
Stewart .... The Diagnosis of Nervous Diseases.. 5
Woodwark.. Medical Nursing 5

BAILLIERE, TINDALL & COX:—
Bigg..... Indigestion 6
" ..... War Diseases (Typhus, Enteric, Dysentery, and Cholera) 6
Clarke, E... Errors of Accommodation and Refraction of the Eye Cover 1
Freyer .... Enlargement of the Prostate 6
" .... Surgical Diseases of the Urinary Organs 6
Gardner .. Manual of Surgical Anæsthesia.. Cover 1

BAILLIERE.—(Continued). PAGE
Heath..... Aural Suppuration: Its Arrest, with Preservation of the Hearing .... Cover 1
Marshall .. Syphilology and Venereal Disease Cover 1
Mummery .. Diseases of the Colon and their Surgical Treatment .. Cover 1

BALF, SONS & DANIELSSON:—
Moullin .... When to Operate in Inflammation of the Appendix .. Cover 1

CHURCHILL, J. & A.:—
Craig ..... Psychological Medicine 3
Cushny's Pharmacology and Therapeutics 3
Eden ..... Manual of Midwifery 3
Fenwick .. Cancer and Tumours Cover 1
" .. Ulcer and its Consequences .. Cover 1
Hardwicke. Sight-Testing Made Easy 3
Hare ..... On Alcoholism: Its Clinical Aspects and Treatment Cover 1
Hewlett .... Bacteriology 3
" .... Pathology, General and Special 3
" .... Serum and Vaccine Therapy 3
Hull ..... Surgery in War 3
Lelean .... Sanitation in War .. 3
Pollard & Davies' Minor Surgery.. 3
Rowlands & Turner's Operations of Surgery 3
Sequeira .. Diseases of the Skin 3
Taylor's Medicine 3
Warren .... Text-Book of Surgery 3
White's Materia Medica 3

FROWDE AND HODDER & STOUGHTON:—
McLann .. Cancer of the Womb Cover 1

GRIFFIN & CO.:— PAGE
Brooke .... Tropical Medicine, Hygiene and Parasitology 6
Davies & Melville.. Hygiene 6
West ..... Diseases of the Organs of Respiration Cover 1

HUMPHREY MILFORD:—
Berkart .... Bronchial Asthma: Its Pathology and Treatment .. Cover 1
" .... Nervous Asthma: Its Pathology and Treatment .. Cover 1

KIMPTON:—
Roth ..... Notes on Military Orthopædics. Cover 1

LEWIS & CO:—
Armstrong. I. K. Therapy 28
Bardswell.. Treatment of Pulmonary Tuberculosis with Tuberculin .. 28
Burnham .. Hæmocytes & Hæmic Infections 28
Coleman .. Extraction of Teeth.. 28
Coleman & Hilliard .. Anæsthetics in Dental Surgery 28
Delorme .. War Surgery 28
Emery .... Immunity and Specific Therapy 28
Gould ..... Pocket Medical Dictionary 28
Jones ..... Medical Electricity. 28
Lees ..... Diagnosis and Treatment of Incipient Pulmonary Tuberculosis 28
Lewers .... The Diseases of Women. A Practical Text-book 28
Moullin .... Enlargement of the Prostate .... Cover 1

LONDON PUBLICITY CO.:—
Reinhardt-Rutland.. Faith, Medicine and the Mind .. Cover 1

LONGMANS, GREEN & CO.:— PAGE
Schäfer .... The Endocrine Organs Cover 1

MEDICAL PUBLISHING CO.:—
Lane, Sir A. .... Operative Treatment of Fractures 6

MILLS & BOON:—
Ash ..... How to Treat by Suggestion .. Cover 1
" ..... Mental Self-Help Cover 1

MURRAY:—
Brunton, Sir L. .... Therapeutics of the Circulation 6

NISBET & CO.:—
Romer & Creasy .. Bonesetting and the Treatment of Painful Joints .. Cover 1

STENHOUSE—
Newman .. Hæmaturia, a Symptom: Its Causes and Diagnosis Cover 1

THACKER & CO.:—
Lukis, Sir P., & Blackham Tropical Hygiene. For Residents in Tropical and Subtropical Climates.. 7

WRIGHT & SONS (BRISTOL):—
Index of Prognosis and End-Results of Treatment 6

MEDICAL LIBRARIES, &c.:—
Baker, Birmingham—Books 7
Behnke—Stammering, Lisping, and Cleft-Palate Speech 7
Kelley—Stammering..... 7
Matthews—Wood: Application of Trusses to Hernia 6

OFFICIAL AND GENERAL ANNOUNCEMENTS

APPOINTMENTS VACANT:—
Bolton Infirmary and Dispensary. 53
Bristol General Hospital..... 53
Bristol Royal Infirmary 53
Bury Infirmary 53
City of Bradford 53
County Asylum, Prestwich, Manchester 53
Elder Dempster & Co., Liverpool.. 54
Guest Hospital, Dudley 53
Ingham Infirmary and South Shields and Westoe Dispensary 52
Isle of Man Lunatic Asylum, &c.. 54
King Edward VII. Hospital, Windsor..... 53
Leeds Public Dispensary 53
London Fever Hospital, Liverpool-road 52
North East Kent Joint Committee 53
North Ormesby Hospital, Middlesbrough..... 54
North West Ham Relief Offices .. 54
Northampton General Hospital .. 53
Northamptonshire War Hospital. 53
Queen Charlotte's Lying-in Hos. 54
Queen's Hospital for Children. 53
Royal Infirmary, Sheffield 53
Royal Infirmary, Sunderland 53
Royal Surrey County Hospital, Guildford 53
Royal Victoria and West Hants Hospital, Bournemouth 52
St. Bartholomew's Hos., Rochester 54
Sheffield City Hospitals for Infectious Diseases..... 54
Throat Hospital, Golden-square.. 56
University of London 53
Victoria Hospital, Burnley 54
Wolverhampton and Staffordshire General Hospital 53

ASSISTANCIES, MEDICAL:—
Arnold & Sons, Giltspur-street .. 54
C., Cornhill 54
Doctor, Camberwell-grove 54
Field Hall, Craven-street 54
Hall Line, Liverpool 54
N., Barnes 54
No. 690, L.O., Strand 54
No. 761, L.O., Strand 54
No. 765, L.O., Strand 54
No. 771, L.O., Strand 55
No. 772, L.O., Strand 54
No. 774, L.O., Strand 54
No. 776, L.O., Strand 54
No. 777, L.O., Strand 54
No. 778, L.O., Strand 54
No. 780, L.O., Strand 54
Silex, Barnsley 54
Turner, Adam-street 54

ASYLUMS, HOMES, &c.:—
Abbotswood House, Cinderford .. 50
Ashwood House, Kingswinford .. 47
Barnwood House Hospital 48
Bishopstone House, Bedford..... 48
Brunton House, Lancaster 52
Buntingford House Retreat, Buntingford 50
Camberwell House, Peckham-road 50
Cheadle Royal..... 48
Clarence House, North Finchley.. 52
Clarence Lodge, Clapham Park .. 47
Colthurst House School, Alderley Edge 52
Coppice, The, Nottingham 48
Dairymple House, Rickmansworth 50
David Lewis Colony, Alderley Edge 52
Duff House, Banff..... 51
Edgar Allen Institute, Sheffield .. 47
Faraday House, Clapham Common..... 47
Ghyllwoods 50
Grove House, Church Stretton 48
Grove, The, Catton, Norwich..... 48
Haslemere Nursing Home 52
Haydock Lodge, Newton-le-Willows 49
Home for Epileptics, Maghull 52
Invernith Sanatorium, Colinsburgh 50
Littleton Hall, Brentwood 52
London Fever Hospital..... 46
Malling Place, Kent 46
Melbourne House, Leicester 50
Mendip Hills Sanatorium 51
Moat House, Tamworth 48
Mundesley Sanatorium, Norfolk.. 51
Newmains Retreat, Lanarkshire.. 50
New Saughton Hall, Polton, Midlothian 49
Nordrach-on-Dee, Banchory 51
Northumberland House, Finsbury Park 49
Northwoods House, Winterbourne 49
No. 361, L.O., Strand 52
No. 412, L.O., Strand 52
Otto House, West Kensington 47
Peckham House..... 49
Pendyffryn Hall Sanatorium, Nordrach-in-Wales 51
Plympton House, Plympton 48
Portsmouth Corporation Mental Hospital 48
Royal Earlswood Institution for Mental Defectives 49
Rudgwick Sanatorium, Sussex .. 52
St. Andrew's Hospital, Dollis Hill 52

ASYLUMS—(Continued).
St. Andrew's Hospital, Northampton 48
St. George's Retreat, Burgess Hill 47
St. Luke's Hospital for Mental Diseases 47
Springfield House Private Asylum, Bedford 47
Stretton House, Church Stretton.. 48
The General Manager, Cravenstreet 52
The Grange, near Rotherham 48
Vale of Clwyd Sanatorium 50
Warneford Asylum, Oxford..... 47
Westcroft, Ilkley 52
Woodfield, Streatham 52
Wye House, Buxton..... 48

COMPANIONS:—
M., Cannon-street 55

HEALTH RESORTS, BATHS, &c.:—
Alexandra Therapeutic Institute. 52
Buxton Dietetic Clinic 52
Smedley's, Matlock 52

HOUSE & ESTATE AGENTS:—
Bedford & Co, Wigmore-street .. 55
Elliott, Son & Boyton, Vere-street 55
Ley Clark, Wimpole-street 56

LIFE & FIRE ASSURANCES, &c.:—
General Life Assurance Co. 44
National Provident Institution .. 44
Prudential 44

MEDICAL ACCOUNTANTS, &c.:—
Turner 55

MEDICAL AGENTS:—
Fieldhall, Limited..... 56
Manchester Clerical, &c., Association 56
Medical Agency 56
Needes, Herbert..... 56
Needes, J. C. 56
Peacock & Hadley..... 56
Turner 56

MEDICAL SCHOOLS:—(LONDON.)
London School of Clinical Medicine 44
West London Post-Graduate College 44

NURSING INSTITUTES:—
Army and Navy Male Nurses Co-operation 45
Co-operation of Temperance Male and Female Nurses 48
General Nursing Association..... 45
Hospital for Sick Children, Great Ormond-street 45
London Nurses' Association 45
London Temperance Nurses Co-operation 45
Male Nurses Temperance Co-operation..... 45
Mental Nurses Association 45
Mental Nurses' Co-operation..... 45
Nurses' Association, York-street.. 48
Nurses' Co-operation, Portland-place 46
Registered Nurses' Society..... 45
St. John's House 45
St. Luke's Hospital, E.C..... 45
Temperance Association of Male Nurses, Ltd..... 46
Temperance Male Nurses Co-operation 46
The Retreat, York 45

OFFICIAL NOTICES:—
City of London Lying-in Hospital 44
College of Preceptors..... 44
Guy's Hospital 44
London School of Tropical Medicine 44
Queen Charlotte's Lying-in Hos. 44

PARTNERSHIPS & PRACTICES:—
Arnold & Sons, Giltspur-street.... 55
Blundell & Rigby, Strand 55
Collins & Son, Leamington Spa .. 55
Hill, Brown & Co., Glasgow 55
Lee & Martin, Birmingham 55
Lee, Musgrove & Co., Birmingham 55
No. 766, L.O., Strand 55
No. 767, L.O., Strand 55
No. 768, L.O., Strand 55
No. 775, L.O., Strand 55
No. 77-, L.O., Strand 55
No. 778, L.O., Strand 55
Storey, Craven street..... 55
Turner, Adam street 55

RAILWAY & STEAMSHIP CO.'S.:—
New Zealand Shipping Co..... 44

SCHOOLS, PREPARATORY, &c.:—
Paton, Cannon street..... 44

TUTORS & LECTURERS:—
Med. Correspondence College 44
Weymouth 44

For Index to Trade and Miscellaneous Advertisements see page 4.

Investigations
ON
CLINICAL THERMOMETRY:
CONTINUOUS AND QUASI-CONTINUOUS TEMPERATURE RECORDS IN MAN AND ANIMALS IN HEALTH AND DISEASE.

BY G. SIMS WOODHEAD, M.A., M.D., LL.D.,
PROFESSOR OF PATHOLOGY, CAMBRIDGE;
AND
P. C. VARRIER-JONES, M.A., M.R.C.S., L.R.C.P. LOND.,
FOUNDATION SCHOLAR, ST. JOHN'S COLLEGE, CAMBRIDGE.
(*From the Pathological Department, University of Cambridge.*)

V.*—OBSERVATIONS IN MAN AND ANIMALS.

VALUE OF QUASI-CONTINUOUS TEMPERATURE RECORD METHOD IN STUDY OF TUBERCULOSIS.

As illustrating the character of the temperature curves obtained from tuberculous patients we may take those obtained from patients treated at Addenbrooke's Hospital, at the Cambridge County Tuberculosis Dispensary, in sanatoria, or at one or other of the open-air colonies founded near Cambridge. We select these as here the patients could be kept under careful observation and any special treatment, reaction, and results noted at once; this allowed of their importance being properly appreciated. In Fig. 21 we have an exact reproduction, on a reduced scale, of one of the record charts with notes as made at the time. It is obvious that, on account of the space required, it would be difficult to reproduce these charts *in extenso*, and as the record is still exact even when subjected to lateral contraction, all the charts have been drawn to scale but with this lateral condensation.

As the records of rectal temperatures are reliable and are now those usually noted in most sanatoria we decided that, for the present, it would be well to utilise records of this type only. The figures inserted on the "hour" lines of the charts indicate the mouth temperatures taken with a mercurial clinical thermometer, and the times at which they were obtained, and are here given for purposes of comparison and control. The letters are merely indices of certain events of the day. D. = dinner, T. = tea, Mic. = patient rose to micturate, S. = supper, B. = breakfast, Sm. = smoking, &c. (See Fig. 5, p. 285.)

* Parts I., II., III., and IV. were published in THE LANCET of Jan. 22nd (p. 173), Feb. 5th (p. 281), Feb. 12th (p. 338), and Feb. 26th (p. 450).

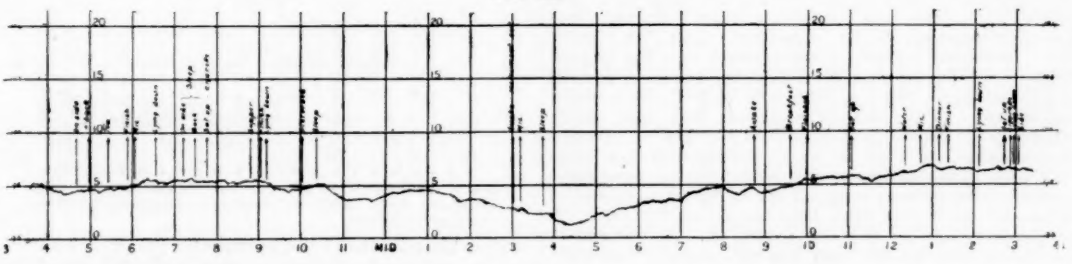
On p. 285 are given temperature records (Figs. 7 and 8) obtained from a couple of patients suffering from tuberculous disease. The patients remaining in bed in Addenbrooke's Hospital had their temperatures recorded at the Pathological Laboratory a third of a mile away. These excellent records show how completely the external influences that might affect the minute electrical currents utilised have been overcome, and how sensitive is the apparatus.

In the disease selected for our experiments the temperature is often continuously high, but fluctuating. Consequently it was necessary in designing and working the apparatus to allow for a sensitiveness much below that usually employed, though far greater than any that can be obtained by means of an accurately standardised and rapidly acting clinical mercurial thermometer. The first thing that strikes one in these records is that the curves, though profoundly altered, the temperature varying greatly from hour to hour, still maintain in a remarkable degree their fundamental diurnal variations.

In the case, J. S., from which Fig. 7 was taken, the effect of a dose of tuberculin (0·001 mg. of Koch's bacillary emulsion), which produces a distinct rise of temperature almost immediately after its administration, is most striking and interesting. The patient at the time the record was taken was extremely ill, the clinical signs in the lung being those characteristic of advanced phthisis. The record serves to illustrate the delicacy and completeness of this method of temperature recording. It is usually considered that in advanced cases of tuberculosis tuberculin produces no effect on the temperature; but here we have a distinct rise, which, however, might have been overlooked had the four-hour method of taking the temperature been employed.

In the second case, E. J. M., suffering from tuberculous peritonitis in which no tuberculin was used, it will be noted that the maximum temperature, 39° C., was recorded at 6 P.M. From this time the temperature remained high until 8 P.M., the "plateau," however, sloping steadily downwards until 8.20, when the curve begins to fall more rapidly. The commencement of this fall corresponds to the time at which the patient fell asleep. Sleep was very disturbed, and there is a rise at midnight which is again followed by a fall until between 2 and 4 A.M., when the minimum temperature is reached. At 2 A.M. it should be noted that the difference between the skin temperature and that of the rectum takes a peculiar form. The temperature of the skin, 38° C., is actually 0·6° C. higher than that of the rectum, 37·4° C. This is a complete reversal of the ordinary relationship

FIG. 21.



Specimen of quasi-continuous record curve as taken. All the other curves illustrating this paper have been condensed laterally, but still drawn to scale, in order to save space. The blank form was not prepared for this special work and the figures 0, 5, 10, &c., mean nothing. The space between the horizontal lines covers 1° C.

between the skin and rectal temperatures. In healthy normal subjects the rectal temperature undoubtedly tends to approximate to that of the skin at this period, but in most cases it is usually slightly the higher of the two. Not only is the rectal temperature in this case markedly lower than the skin temperature at this period, it is continuously slightly below it for practically the whole 24 hours; there is, in fact, a complete reversal of the normal state of affairs. The rectal temperature begins to rise at 4 A.M., about an hour and a quarter before the patient awakes, after which it continues to maintain its upward tendency with a slight remission at breakfast time, due to the ingestion of food; this is soon followed by the usual "digestion" rise. Hot milk (M) taken at 10.10 A.M. sets up another slight rise, which is followed by a more marked upward tendency which continues until 2.30 P.M., when the experiment was stopped. The patient, a lad aged 18, was very ill at the time the record was taken, and the temperature recorded by the surface thermometer was both high and fluctuating. The diurnal variation is still a marked feature, but the subsidiary curves which are superimposed tend to complicate and obscure the main variations. Sharp falls were noted on the surface temperature record at 4 and 6 A.M., but these were undoubtedly due to the non-approximation of the thermometer to the surface of the body, and served at the time to illustrate the special difficulty sometimes experienced. The later curves (Fig. 5) of normal subjects show that, eventually, we were able to overcome this drawback.

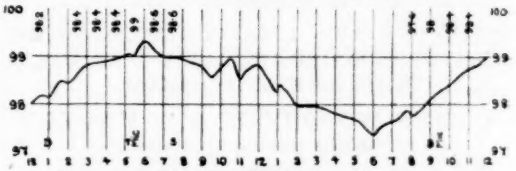
Typical Illustrative Temperature Records taken from other Tuberculous Patients.

CASE 1.—College servant, aged 42. June 11th, 1914: Feeling run down, had a slight cough, and brought up a little sputum. Night sweats once a week. Appetite poor; patient losing weight. Coughed up a couple of ounces of blood two weeks ago. June 30th: Patient admitted to Maltings Farm Sanatorium, Neyland. Temperature 99·2° F., rising on occasion to 99·6°, but for the greater part of his stay in the sanatorium his temperature was 98° at 9 A.M., 99° at 12 noon and 6 P.M., and about 98·4° at 9 P.M. In the first week in July the temperature fell to 96·6° at 9 A.M. on two occasions and on the next day to 97·2°. This instability, a very interesting feature, was controlled by keeping the patient in bed. Signs of mischief at the left apex. Sept. 25th: Condition much improved; a gain of 9½ lb. on return from sanatorium. Left apex healing, but at third rib a few dry crepitations were heard on deep breathing.

Sept. 29th: Continuous temperature record taken; highest 99·5°, and again on Nov. 12th and 13th and on 24th and 25th. (See Fig. 22.) Tuberculin injected and continuous record taken on Nov. 27th and 28th (see Fig. 23), and again on Dec. 1st and 2nd. Domiciliary treatment Dec. 3rd. Temperature over 99° the greater part of the day. On Dec. 16th 0·0001 mg. T.R. (P. D. and Co.) injected; this was followed by a rise to 99°, and we have a prolonged "plateau" line well marked. (See Figs. 24 and 25, Dec. 16th, 17th, and 18th.) The patient was putting on weight, but the chest condition appeared to be stationary. Jan. 7th, 1915: Work increased, but weight had fallen 2 lb.—7 st. 13¼ lb. Working four days a week his weight had run up to 8 st. in a month. April 16th: A tuberculin (0·0001 mg.) record was taken. (Fig. 26.) The disease was now fairly quiescent, but the weight had fallen to 7 st. 11½ lb. Patient was working six days a week, undoubtedly too long. June 10th: The man was at full work. There were fewer signs of active disease; weight 7 st. 9½ lb. A week earlier there was some pain with tenderness over the third rib on the left side, but this had passed off. At the end of September, although the man was still working full time, there was no exacerbation of the disease, no crepitations could be heard, and the condition generally was extremely satisfactory.

In Fig. 22 we have the temperature curve of a somewhat feverish patient. Standing at 98° F. at midday it rises steadily with one or two rapid jumps to 99·3° at 6 o'clock in the afternoon. By 7 o'clock

FIG. 22.

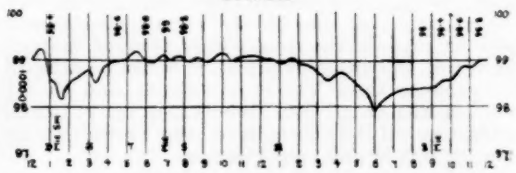


Case 1. Nov. 24th–25th, 1914. Rectal. 24-hour chart Pretuberculin temperature.

it has fallen to 99°, and then it goes down by steps to 98° at 2 A.M., after which it falls steadily and continuously until it reaches its lowest point at 6 A.M., to rise again to 99° by noon, one degree higher than it attained the previous day at the same hour. The irregularity of the line during what we may call the lower level period and the very rapid and steady rise, after the patient awakes, of the high temperature period should be noted.

This may be taken as the "normal" curve of a patient in whom tuberculosis is becoming less active; it is to be looked upon as a "pretuberculin" temperature, though some "natural tuberculinisation" is taking place as the result of the patient engaging on work some four hours a day for several days a week. At noon on Nov. 28th 0·0001 mg. of T.R. was injected, the temperature then standing

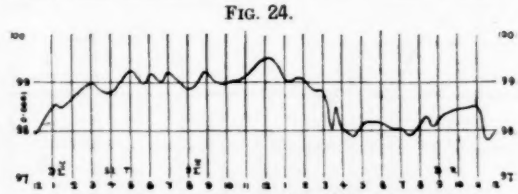
FIG. 23.



Case 1. Nov. 27th–28th, 1914. Rectal. 24-hour temperature chart immediately after tuberculin.

at 99°. This was followed by a slight rise to 99·3° at 12.30 P.M., and then by a sharp fall to 98·2° (Fig. 23) when food was taken, but by 1.30 P.M. an upward movement had begun, this continuing, as in the previous record, to 99·2° between 5 and 6 o'clock in the afternoon. Now comes the characteristic feature; the temperature, instead of falling somewhat irregularly until 2 A.M., remains consistently high. There are a few slight peaks on the record line, but they are merely small elevations on a broad high plateau. Further, although the lowest point is again reached at 6 A.M., this lowest point—97·9°—is half a degree

FIG. 24.

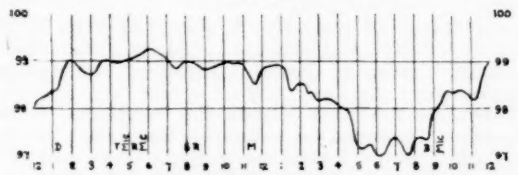


Case 1. Dec. 16th–17th, 1914. Rectal. 24-hour temperature chart to show effect of tuberculin on type of curve—tuberculin plateau.

higher than it was in the pretuberculin period curve. The morning rise following this is almost identical with the corresponding rise of the pretuberculin period. Fig. 24 brings out another interesting

feature of the tuberculin period. Here, again, we have the high plateau continuing until 2 A.M. (the period of night sweats), after which comes a sudden and very irregular fall. All these small irregularities—some of them can scarcely be spoken of as "small"—are exceedingly characteristic of a phthisical temperature and cannot be too closely studied, especially when they are followed by a depression which continues long after the usual period of recovery. Although this recovery is delayed, there is a second period of reaction (Fig. 25), not so prolonged as the first, but still

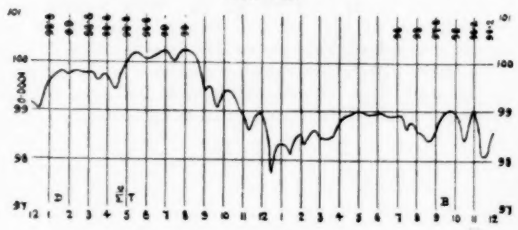
FIG. 25.



Case 1. Dec. 17th–18th, 1914. Rectal. Second 24-hour temperature chart showing a plateau (although tuberculin was given 24 hours ago). Marked fall of temperature; condition of instability.

distinctly marked and again very "wobbly" towards the end. In this case also the lowest temperature is reached at 6 A.M., and again the rise is delayed until nearly 9 o'clock, from which point there is a rapid rise until at 12 noon, when 99° is recorded. These long "extreme" periods with the small irregularities are also characteristic of the tuberculin reaction, whether prepared tuberculin be injected or we produce a process of auto-tuberculinisation as the result of too violent or too prolonged exercise of the tuberculous patient. Here, as in cattle (Fig. 36), the instability of the temperature and the ease with which it may be induced to fall and rise is as remarkable a feature as the range of variation from the diurnal normal. When the patient appeared to be doing well as regards the condition of the lungs, but was working too hard and losing weight, his temperature curve was not

FIG. 26.



Case 1. April 16th–17th, 1915. Rectal.

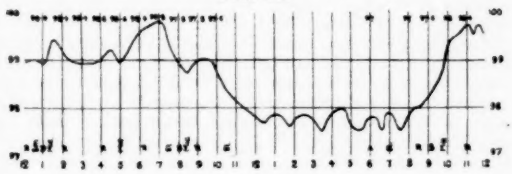
only very irregular, but for 17½ out of the 24 hours it ranged between 98° and 99°. At 7 P.M. 100·3° was recorded, at 12 midnight it had fallen to 98°, and at 6 A.M. to 97·7°. After the exhibition of 0·0001 mg. tuberculin a curve (Fig. 26) quite distinct from any previously noted, but certainly a "tuberculin curve," was obtained. Running high for eight hours it reached its highest point, 100·2°, at 8 P.M. The "plateau" is not very wide, but it is still there, with its small elevations. Then comes a rapid but intermittent fall until half an hour after midnight, when it reaches its lowest point, 97·7°, this being followed by an irregular or "staircase" rise for 3½ hours, a plateau for 3 hours, and finally a series of upward and downward jumps in which the temperature varies from 0·6° to 0·9°. Here the wide range and the marked instability are very characteristic, and to our minds indicate that in this instance at any rate the injection of tuberculin was not likely to do any good. The reaction was too great. The continued instability of the temperature afforded further evidence that this indication might be followed for the future.

CASE 2.—Man, aged 28; formerly confectioner's cook, now a gardener. Seven years ago developed a bad cough and was treated by Professor J. B. Bradbury at Addenbrooke's Hospital, and later at a sanatorium. Seen Nov. 19th, 1914. Cough then very troublesome; much sputum. Signs of active disease at both apices; dullness and crepitations extending down the left side as far as the base posteriorly. Patches of bronchial breathing over the third rib in front. General condition fair, but patient was breathless and recently had had several slight hæmoptyses; weight 10 st. 8 lb.

Dec. 3rd: General condition not so good; greater breathlessness; cod liver oil; weight 10 st. 7 lb. Dec. 17th: Disease seemed to be extending. Jan. 1st, 1915: Was doing light garden work and seemed better; signs in lungs about the same. For about a month he did odd jobs, window cleaning and gardening (mostly digging) for from 2 to 6 hours a day, spending about two days a week (24 hours at a time) in bed at the laboratories, getting well fed and having his temperature taken. For another fortnight he worked about three days a week from 6 to 8 hours a day. He then went to Ventnor, Isle of Wight, for six months and returned much improved, and though some signs of active disease still presented themselves he was able to work as a gardener for 8 hours a day.

From Sept. 22nd, 1915, to Oct. 13th, he was working on 17 days, and on only five did the temperature rise to 98 6° F.; on one of these, to 98 8°; once it fell to 97·2°. Usually the lowest fall was to 98·4° or 98·0°. On the five rest days the temperature once rose to 98·6°, and four times to 98 4°, whilst the fall on these five days was to 97°, 97·2°, 97·6°, one each, and 97·4° on two occasions.

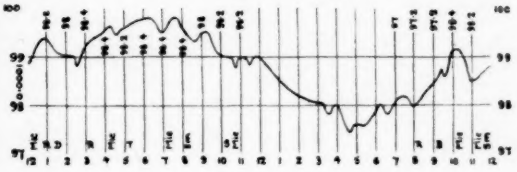
FIG. 27.



Case 2. Jan. 21st–22nd, 1915. Rectal.

On Jan. 21st and 22nd, when the patient had been doing very light work for a couple of hours a day and after a short morning spell of work, a 24-hour record was commenced at 12 noon (Fig. 27), when the temperature was 99° F. Between 1 and 2 o'clock it rose to 99·4°, and at 7 o'clock it had reached 99·8°. It then fell steadily to 97·7° at 1.30 A.M., and remained low for some time with undulations of from 0·3° to 0·5°, reaching 97·5° on

FIG. 28.

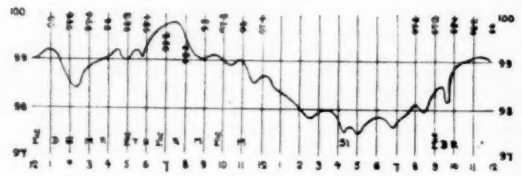


Case 2. Jan. 29th–30th, 1915. Rectal.

no fewer than four occasions between 3.30 and 8.30 A.M. Then followed a rise of 2·2° in 3½ hours. No plateau occurs in the evening curve, but most pronounced instability and variation through a wide range are to be noted.

A week later, when the patient was doing the same kind of work, the usual dose of T.R. (0·0001 mg.) was injected, and although the temperature (Fig. 28) rose no higher than in the above record (Fig. 27), we now see the characteristic plateau with the small peaks jutting out at irregular intervals. The minimum temperature is reached between 4 and 5 in the morning, after which comes a fairly rapid rise, again peaked and again accentuating the instability characteristic of the tuberculin temperature. The patient was then put to work six hours a day, and we now obtain an almost exact repetition of the pretuberculin curve with all its many peaks and depressions, but without the

FIG. 29.

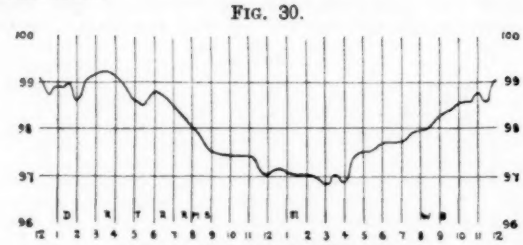


Case 2. Feb. 2nd–3rd, 1915. Rectal.

plateau-like elevation resulting from the throwing in of a single comparatively large dose of tuberculin (Fig. 29). The irregularity *may* have in it a "septic" or pyæmic element; the plateau appears to be a pure tuberculin phenomenon.

CASE 3.—A boy, aged 16, laboratory assistant; examined Sept. 18th, 1914. Fairly well developed; chest poorly covered. Movement not so good on right side as on left. Poor note over right upper lobe, breath sounds feeble; some crepitations. The boy was said to be much improved by two months' stay in a tent in the country, where he was allowed to do as he wished. Could not be sent to sanatorium through lack of funds. Sept. 19th: Complained of pain on defæcation; had been treated for piles. An abscess found and patient sent to Addenbrooke's Hospital Oct. 31st. Operated upon by Mr. A. Cooke, and on Dec. 8th patient was transferred to colony at Little Abington, where he was kept in the open air in a shelter, the wound being packed daily; the sinus healed gradually. There was steady improvement in the condition of the lungs, although a patch of dullness has always been made out over the affected area. No cough or sputum. This patient first worked in the garden and then at light farm work, which was gradually increased until he was able to do a full month's harvesting in the fields. On Feb. 20th–21st and March 23rd–24th, 1915, 24-hour temperature records were taken, the first when the abscess had been opened and scraped and was healing, the second when the abscess had healed, but 0·0001 mg. T.R. had been injected. The temperature records were taken when the lad was on first-grade exercise. By Nov. 2nd lung lesion and sinus had both healed.

FIG. 30.

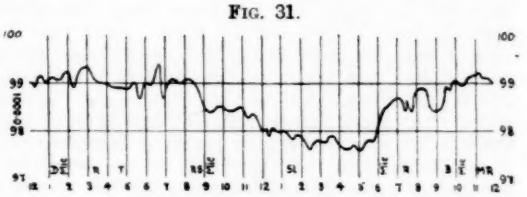


Case 3. Feb 20th–21st, 1915. Rectal.

The two records taken from this case are extremely interesting and instructive, especially to those who have been accustomed to depend upon the difference in range of temperature rather than on a difference in the character of the variations. In Fig. 30 we see a variation of 2·4° F. during the 24 hours. It commences higher than normal, 99·1° F. at noon, and although it falls to 98·7° by 2 o'clock it has risen at 3.30 to 99·2°. From this point there is a steady fall (with the exception of a slight rise after tea) at 6 P.M. until 12 midnight, when the temperature recorded is a shade over 97°. At 3 A.M. it is 96·8°, at 3.30 A.M. 97°, at 4 A.M. 96·9°, after which there is a steady and continuous rise to 98·8° at 11 A.M., and after a slight fall it goes beyond 99° at noon. Here, although the range is wide, the variations occur with great smoothness. The patient slept from 9.15 P.M. to 5.30 A.M., but an hour and a half before he awoke there was a sudden rise, the sharpest in the whole curve. This wide range of temperature occurring even whilst the patient is resting in bed is undoubtedly characteristic of certain types of tuberculous disease.

During the next month the condition of the patient improved considerably, the range of the greatest diurnal variation coming down to 1·8° F. When a small dose of tuberculin, 0·0001 mg., is injected the range of the variation is not increased, but the character of the record changes completely. (Fig. 31.) The tuberculin was injected on March 23rd

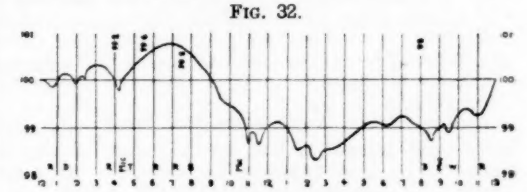
FIG. 31.



Case 3. March 23rd–24th, 1915. Rectal.

at 7.45 P.M., when the temperature was 98·2°, and although there is the usual "sleeping" fall the curve becomes extremely irregular, the small peaks and depressions now making their appearance on the chart. At 5 A.M. the temperature is 97·6°, by 10 A.M. it has reached 99° by a series of jumps usually followed by smaller backslidings, after which for the next 10 hours the line keeps on a kind of level plateau at 99° with slight rapid depressions of 0·1° to 0·3° below this figure and equally rapid elevations of 0·4° beyond the 99° line. The instability, the regular plateau with its small peaks and dips constituting, we believe, distinct evidence of a slight tuberculin reaction.

FIG. 32.



C. C. August 25th–26th, 1915.

In almost all the records of tuberculous temperatures we have a marked rise usually commencing about 5 P.M., after warm tea has been taken, the apex of the curve being reached about 2 hours later. From this point onwards there is a steady and regular fall during from 4 to 8 hours, according to the time that the patient sleeps soundly, whilst as soon as the period of deep sleep is passed the record indicates considerable instability.

Fig. 32 affords a further admirable example of this type of curve, which was taken from a case of a patient suffering from tuberculous disease of both

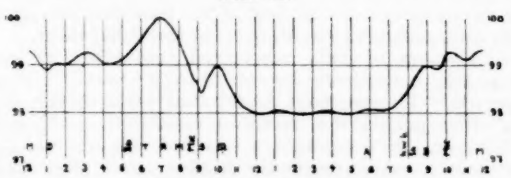
lungs and a perineal abscess. It appears to us, however, that in almost all the cases in which this occurs there is a septic complication, and that we have both wide range of temperature and great instability.

CASE 4.—Male, aged 21, scientific instrument-maker; examined on Dec. 25th, 1913. Had a history of rapid wasting, much cough, but no expectoration. Ill about five months. Patient had no treatment until three days ago, when he went to bed with severe hæmoptysis which had now ceased. Physical signs: Temperature 99° F. at 12 noon. Slight dullness at both apices, whistling rhonchi, probably due to the hæmorrhage, which obscured other sounds. Dr. Laurence Humphry reported that "as there has been recent copious hæmoptysis the case belongs to class which has favourable prognosis." Case had been in a sanatorium, but was discharged "because the authorities said he had a hernia." Was operated upon at Addenbrooke's Hospital for psoas abscess. After discharge from hospital the patient lived in a very stuffy room until Oct. 15th, 1914, when he was sent out to the colony at Bourn, the Scientific Instrument Co. making a contribution towards the expenses of the treatment. The sinus from the abscess, from which there was profuse discharge accompanied by pain in the lumbar region of the spinal column, gradually healed when patient had been put into a poroplastic jacket and kept absolutely at rest on his back on a hard mattress, the wound being dressed daily and the body carefully protected against bedsores.

Nov. 1st, 1915: The pain has disappeared and the discharge ceased four months ago. Patient, who had passed the whole winter in bed in his shelter, was now being taken out in a spring carriage and was putting on weight. Cough had disappeared; there was no expectoration and the temperature had been normal for months. This patient had been given up as hopeless until he was sent out to the colony.

In Fig. 33 we have a typical tuberculous temperature chart in which the temperature is recorded as keeping at or slightly above 99° from 10 A.M. until

FIG. 33.



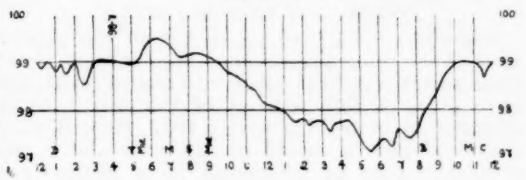
Case 4. Nov. 17th–18th, 1914.

5 P.M. with a few slight but fairly well-marked variations. It then begins to rise steadily, and by 7 P.M. it has reached 100°, only to fall, when the night sweat has developed, to 98·4° at 9 P.M. Although it now takes a turn and rises to 99° at 10 P.M., it falls a whole degree, to 98°, by midnight, and here it continues practically unaltered until 7 A.M., from which time to 10 A.M. it rises 1·3°. These rapid and extensive falls also appear to be characteristic of certain forms of tuberculosis, though, if that be the case, the septic characteristics which might be looked for in this case are not prominent features.

CASE 5.—Belgian refugee, aged 21. Nov. 19th, 1914: Sent to dispensary by Mr. Cooke. Patient is a well-built man; he suffers, however, from some wasting of the shoulder-girdle muscles and the local subcutaneous fat; the leg muscles are well developed. Past history: University student and army officer. At the outbreak of the war he was a despatch rider; he fell off his bicycle and felt pain in left side. Saw a professor at Ghent, who said he had tuberculosis. On examination: Right lung: Note high-pitched over clavicle and to level of second rib; otherwise no abnormality discovered. Left lung: Note full at apex and below clavicle to level of third rib and in the supraspinous fossa. Breath sounds were feeble over these areas and a few crepitations were heard. At the base there were marked dullness and many crepitations. On Dec. 14th, 1914, the patient was transferred to the colony at Little Abington, and has since lived an outdoor life in a shelter. The disease has now become quiescent, the sputum (which when the patient was first seen was swarming with bacilli) gradually became less, almost negligible in amount, and favourable progress has been uninterrupted. Nov. 4th, 1915: Note good over both lungs. Breath sounds good with no evidence of active disease. Had gained 3½ stone. Chest measurement now 45 inches.

In the middle of February, when the patient was just beginning to improve, several continuous records were obtained, of which Fig. 34 may be

FIG. 34.



Case 5. Feb. 12th–13th, 1915. Rectal.

taken as a good type. Somewhat high, about 99° F., between 10 A.M. and 2 P.M. it was extremely unstable at 5 P.M.; an hour after tea it rises to 99·5°, and then falls steadily to 97·1° at 5.30 A.M., the lower part of the curve only having the wavy line characteristic of instability. The rise to 99° takes place as early as 10 A.M. A glass of cold milk taken at 11 A.M. brings down the temperature 0·3°.

The Effect of Exercise.

In some few of our charts, especially those commenced almost immediately after the tuberculous patient has ceased work, it has been noted that the rectal temperature, even after fairly vigorous exercise, may give no indication of any marked rise. Bardswell and Chapman[92] note, too, that at certain periods of the day and in certain types of patient the temperature may be actually lower than when the subject is at rest and taking no exercise. We can corroborate this, and also that the rise of temperature which follows exercise may not in itself be an indication of "auto-inoculation" of the patient.

In our experience instability of temperature is a far more important indication of auto-inoculation or of a tuberculin reaction than is the mere amount of the rise, and this especially when the characteristic plateau temperature with its minor elevations and depressions is a feature of the record. One observer, Weinert,[93] sets himself the task of combating the idea that a rise of temperature after exercise in a presumably tuberculous patient is of any special or supplementary diagnostic value. He maintains, indeed, with Zuntz and Benedict that the strength of the individual determines the value of exercise in raising the body temperature. The rise of temperature, he holds, is more marked in cases in which there is muscular weakness and want of training, and is the result of a poorly constituted and badly trained heat-regulating system far more than of auto-inoculation by natural tuberculin. To Weinert we are indebted for the very interesting observation that long periods of lying in bed and rest cure, lowering the muscular activity and heat-regulatory system of the patient, induce a condition in which the temperature rises easily and rapidly after even the most gentle exercise.

It is pointed out that the rectal temperature is probably specially high after walking because of the

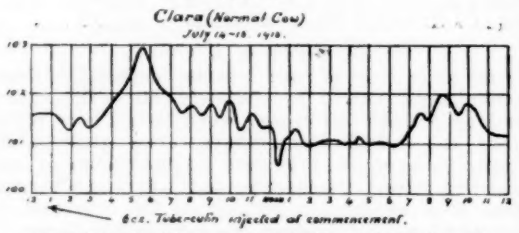
activity of the large pelvic muscles, and because heat escapes less rapidly from this region than from the axilla and the mouth.

Moreover, walking is the form of exercise usually prescribed for the tuberculous and non-tuberculous patient alike, and a rise of rectal temperature may be looked for in both. Consequently, taken alone, this rise is not necessarily any confirmation of a diagnosis of tuberculosis, and the character of the 24-hour continuous temperature record comes in to give us information that cannot be acquired by a use of the mercurial thermometer.

IMPORTANCE OF 24-HOUR TEMPERATURE RECORD IN TUBERCULIN TEST IN CATTLE.

Elsewhere[94] we have insisted upon the importance of obtaining a continuous temperature record when carrying out the tuberculin test in cattle, and have given a full account of the details to be attended to in making such a test. Here it must suffice to give a record of the action of a full diagnostic dose of tuberculin upon healthy and tuberculous cattle. It is evident that in the healthy cow (Fig. 35) the rise of temperature following the administration of a full dose is very slight, that the rise appears at the next milking, feeding, and watering period, between five and six hours after the injection, that it lasts for a short time only, and that at no time does it exceed 0·2° F.

FIG. 35.



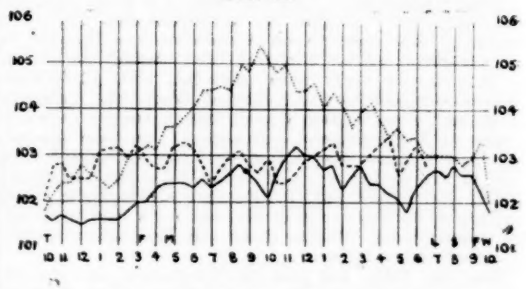
Record from healthy cow injected with a full test dose of tuberculin.

beyond the temperature recorded the preceding day. There was no repetition of the rise on the succeeding day at the corresponding hour, the temperature remaining normal. A calf similarly treated gave similar results. Tuberculin in full diagnostic doses, then, exerts but a very slight and transient effect upon healthy bovines of whatever age.

The Tuberculin Reaction in Tuberculous Animals.

The temperature curve of a tuberculous animal to which a similar dose of tuberculin is administered is, however, as in the human subject, absolutely characteristic. In order to demonstrate this as clearly and conclusively as possible, we first tested the tuberculin reaction of a calf that had been rendered tuberculous for experimental purposes. After a 24-hour temperature record had been obtained, 6 c.c. of tuberculin was injected subcutaneously, and during the succeeding 48 hours a continuous temperature record was made. The records so obtained are combined in Fig. 36, in which we have first the pretuberculin temperature record, then that after the injection of tuberculin at 10 A.M.—a most characteristic tuberculin curve. Immediately after the injection of the tuberculin comes a rapid rise—1·2° F.—beyond the temperature recorded at the corresponding hour, noon, the previous day—i.e., there is within a couple of hours a considerable interval—1·2°, between the normal and tuberculin curves. An hour and a half later the difference between the corresponding time points on the two curves is only 0·8°. At 9.30 P.M., 11½ hours after the injection of the test dose, the temperature has reached 105·3° and the difference between the normal and the tuberculin temperatures is 2·8°. Then, although the temperature of the tuberculinised calf falls to 105° during the next half hour—i.e., just 12 hours after injection—the difference between the pre- and post-tuberculin temperatures has risen to 2·9°. From this point onwards the tuberculin temperature curve assumes a very interesting form. In a very definite, though not regular, falling line we have until 6.30 A.M. a

FIG. 36.



Calf No. 1 (T.B.). May 14th–17th, 1914. 1. Continuous line = pretuberculin curve. 2. Dotted line = post-tuberculin curve. 3. Dashed line = late post-tuberculin curve.

series of upward peaks or teeth. Then for an hour it remains almost stationary; but after this there is a further fall of 0·2°, due apparently to the ingestion of food, the temperature of which is below that of the body. From 8.30 to 9.30 A.M. there is a rise of 0·6°, but immediately following the watering of the animal there is a fall of 1·4°, this indicating a very marked instability of the temperature, even 24 hours after the exhibition of the tuberculin.

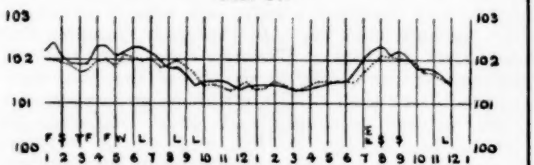
In view of this continued instability it was decided to continue the record for a second 24-hour period. It was then found that even at the end of that period the unstable condition continued. Further, the temperature was not only unstable, it remained at a markedly higher level than that attained in the pretuberculin period. It is a feature of special interest that not only was the mean temperature higher than normal even in the second 24 hours of the post-tuberculin period, but the variations were far more marked than in any period and under any conditions in which the animal was placed in the pretuberculin 24-hour period. The temperature was in a state of unstable equilibrium, was easily and profoundly affected by any of the factors that ordinarily set up far less marked, though, as above noted, distinct variations.

So marked is this feature that in a previous paper[95] we "insist that evidence of a tuberculin reaction is to be sought, not in the number of degrees recorded, or even in the difference in temperature at single intervals in the pre- and post-tuberculin periods [important though these undoubtedly are], but in the nature of the two curves as a whole, and when studied together. To begin with, far more marked fluctuations, especially as the result of exercise and of watering, are met with in the post- than in the pre-tuberculin period; whilst a feature that distinguishes most markedly the tuberculin temperature curve in a tuberculous animal from that in a 'normal' animal is the distinct, though 'intermittently continuous' rise, and the equally 'intermittently continuous' fall."

What Constitutes a Positive Reaction?

Having obtained such marked and characteristic reactions in the tuberculous calf, and in order to submit our provisional conclusions to a practical test, we determined to experiment on an adult animal, a cow, that we looked upon as being tuberculous (it had some months previously been injected with a full dose of tuberculin and the temperature had been taken at four-hour intervals with a mercury clinical thermometer). Some doubt, however, existed as to the accuracy of the diagnosis, and we certainly had no information as to how the animal was supposed to have contracted the disease. A couple of 24-hour records were obtained before the tuberculin was injected (Fig. 37), and the curves were practically

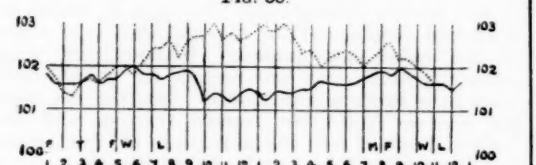
FIG. 37.



Cow X (T.B.), May 1st-6th, 1914. Continuous line = pre-tuberculin curve, first 24 hours. Dotted line = combined pretuberculin curve—two 24-hour records.

identical, only the normal variation appearing in each. At 3 P.M. a full dose of 6 c.c. of tuberculin was again given. Three hours later the temperature began to rise in the characteristic "wavy" or "toothed" fashion (see Fig. 38), reaching a

FIG. 38.



Cow X (T.B.), May 1st-6th, 1914. Continuous line = pre-tuberculin curve. Dotted line = post-tuberculin curve.

maximum—103° F.—six hours after the injection. Although there followed a slight fall, a kind of plateau line was maintained, but with small remissions, until 2.30 A.M. Though remaining high for a night temperature, it then fell in a series of diminishing waves until at noon it had reached its normal level and there continued.

Were we to consider this a "positive tuberculin reaction"?

It is usually accepted that a reaction should be considered positive if there is a rise of temperature of 1·6° F. above the maximum of the two preceding days—i.e., we adopt a relative standard. All these observations accord well with what we have observed in the human tuberculous subject, in whom even very small doses of tuberculin produce very great instability of temperature. So noticeable is this, indeed, that we feel justified in accepting this feature, along with the steadily rising and then falling curve, as constituting even more important diagnostic factors than the actual rise of temperature at any one point.

Injections of tuberculin into normal bovine animals[96] are followed by a rise of 0·8° C. (1·4° F.) or more in only 12 per cent. of the cases so treated. A rise of 0·9° C. (1·62° F.) or more was recorded in 5 cases only, or 4 per cent. of a whole series. Applying these figures to the test now under consideration, we should be compelled to admit that at the end of the first 4 hours there is no appreciable reaction, and that for the next 10 hours there are only five half-hour periods in which there is a distinct tuberculin temperature reaction. One occurs at 10.30 P.M., 7½ hours after injection, and would be missed in any series of four-hourly observations, and four between 12.30 A.M. to 4.30 A.M., again half an hour before the third four-hourly period usually allotted to the taking of the temperature. When, however, we come to study the complete record, and note the difference between the highest temperature reached and the temperature at the corresponding time of the previous day, we may well be satisfied that the reaction is "positive"—i.e., in the normal and tuberculin diurnal curves the difference in temperature at the corresponding points on the curves exceeds the amount set up by the members of the Royal Commission on Tuberculosis as the standard for a positive reaction, especially as it is evident that this excessive difference really extends over several hours, and we must come to the conclusion that the cow was tuberculous.

The Normal Diurnal Variation.

This brings us to the question, How far must the normal diurnal variation be taken into consideration when interpreting the "tuberculin temperature" in fixing a standard for a "positive tuberculin" test?

In the first place it is evident that the normal diurnal variation may not be without effect upon the tuberculin temperature, and this being the case the time at which the tuberculin is injected cannot be considered to be a matter of indifference when we are called upon to determine whether we have a positive reaction or not. The conclusions at which we have arrived as a result of our observations incline us to agree with Cobbett and S. Griffith[97] that the test injection may be so timed that the maximum rise of temperature caused by the tuberculin will coincide with the maximum rise due to the normal diurnal variation. In such a case we should, of course, expect a greater total rise of temperature than when the upward movement caused by the tuberculin is neutralised by one or more of the several causes of the diurnal downward variation. Bearing this in mind, we are bound to recognise that it may be necessary for us to revise our interpretations of these temperature records, especially in "doubtful" reactions. It may not be, and probably is not, sufficient to rely on the chance of obtaining the difference between the maximum temperature for the 24 hours preceding the injection of tuberculin and that of the succeeding 24 hours.

The temperature at each period would have to be compared with those taken at the corresponding periods during the 24 hours after injection—i.e., the highest temperature obtained after injection would have to be compared with the temperature attained at the corresponding time in the preceding 24 hours, a comparison impossible of attainment without having access to continuous or quasi-continuous records; for although it is known that the maximum temperature after an injection of tuberculin is usually attained between the sixth and twelfth hours, important exceptions to this rule are often met with; and it is obviously out of the question with an ordinary clinical thermometer, even when the temperature is taken at four-hourly intervals, to be sure of "catching" the temperature at its maximum. And even were this attainable, it would still be impossible to determine the point of time in the preceding 24 hours with which to make a comparison. Indeed, from a study

of any of our charts it is evident that, using the four-hourly method of taking temperatures with the ordinary clinical thermometer, it is not difficult, nay, it is a very easy matter, for the observer to miss a rapid rise or fall—a rise or fall which occurs time after time in every temperature curve yet obtained by us in carrying on our tuberculin experiments.

CONCLUSION.

We recognise that in the rough and very imperfect sketch of the history of thermometric methods, and the scanty matter we have used to illustrate the value of the quasi-continuous temperature record, we have left much room for criticism and improvement. Our object, however, was, after giving a short résumé of the history of the clinical thermometer in its various forms, to indicate the value of these continuous records in the study of the temperature phenomena that are already considered to be of importance, as indications of the presence of various disease processes. This we considered would be best done by giving a series of charts from normal individuals, from tuberculous patients, human and bovine, suffering from uncomplicated tuberculosis, and from tuberculosis combined with septic mischief, from tuberculosis in which the natural absorption of tuberculin has been induced, and from tuberculosis in which a tuberculin reaction from artificial injection of tuberculin has been set up. Our interpretations may be erroneous, but the records are there to be studied by those who are interested and whose experience and knowledge will enable them to give opinions of value.

In the course of our work we have become convinced that there is still much to be learned from a close study of continuous thermometric records taken from cases suffering from diseases of which the clinical symptom-complexes are similar, but of which there are now and again slight, or in some cases even marked, differences.

Thus we are now satisfied that much is to be learned from a study of a series of temperatures taken from groups of cases of (1) Pneumonia and enteric fever; (2) enteric or typhoid fever and the paratyphoids A and B; (3) the paratyphoids A and B; (4) dysentery and the paratyphoids; (5) the "septic" groups; and (6) epidemic cerebro-spinal fever, and certain other acute fevers, tuberculosis, &c.

Much has still to be determined in regard to the normal temperature under different conditions; whilst the action of such drugs as alcohol, chloroform and ether, curari, opium, quinine and the antipyretic drugs in their effect upon the body temperature offers a wide and interesting field in which to carry on investigations that promise a rich yield. Another field in which this apparatus may be of use is the study of the temperature of the various nerve lesions, whether central or peripheral.

The influence of rest, of clothing, of bathing hot and cold, of external temperature generally, has still to be determined, and we are anxious that the work should now be taken up by others. The apparatus, though apparently complicated, is strong and well made; it does not get out of order readily; it is easily worked and the range of temperature that can be recorded is in the most recent form of the instrument very great indeed, and this without "cramping" the record in the slightest degree.

We have at present four of these apparatus at work, three in the Tuberculosis Colony at Bourn and one in a large general military hospital where the medical officers are studying the effects of continuous constant temperature baths on the general and temperature condition of patients suffering from large open septic wounds. Another apparatus has been supplied to a distinguished physician for use in a base hospital in France, and we look forward with interest to an examination of the results there obtained. In work of this nature, whether in the construction of new apparatus or the carrying out of the detail of its application and use over long periods, we are naturally very dependent on the help of others. That help we have had placed at our disposal fully and freely, and we now wish to acknowledge our indebtedness for such help, first to the Cambridge Scientific Instrument Co., who have continued to us the invaluable help and advice which, as we learned from the late Professor Gamgee, they extended to him. Whether carrying out our suggestions or giving to us out of the abundance of their technical skill, knowledge, and experience, they worked willingly and gave ungrudgingly. From Mr. Horace Darwin and Mr. R. Whipple downwards we received nothing but courtesy and kindness. To Mr. W. A. Mitchell, our laboratory assistant, we owe our hearty thanks, not only for the care and skill with which he has carried out much of the work of some of the experiments, but for many valuable practical suggestions as to improvements of detail. Without his aid the work would necessarily have been greatly delayed. To Mr. F. G. Binnie we are indebted for invaluable help in our search through the literature to which we have had access, and for the verification of many of the references quoted. Without his help, especially since the war began, we should have been in a sorry plight indeed. Finally, we must not omit to thank Mr. Horace Gillings and Mr. Victor Norfield for the reduction of the charts and drawings to a scale in which they could be reproduced in the hospitable columns of THE LANCET.

Bibliography (Part V.).—92. Bardswell (N. D.) and J. E. Chapman: Some Observations upon the Deep Temperature of the Human Body at Rest and after Muscular Exertion. Brit. Med. Jour., 1911, vol. i., p. 1106. 93 Weinert, A.: Ueber Temperatursteigerungen bei gesunden Menschen (Dissertation), Heidelberg, 1912; Ueber Rektale Temperatursteigerungen, Münch. Med. Wochenschr., 1913, lx., p. 1542. 94. Journal of Comparative Pathology and Therapeutics, Edinburgh and London, 1915, vol. xxviii., p. 337, et seq. 95. Loc. cit., p. 353. 96. L. Cobbett and A. Stanley Griffith: Royal Commission on Tuberculosis, Final Report, Part II., Appendix. Supplemental Volume, Report on Tuberculin Tests, London, 1913, p. 13. 97. Loc. cit., p. 14.

A TABULAR STATEMENT OF 500 ABDOMINAL GUNSHOT INJURIES.

BY CUTHBERT WALLACE, B.S. LOND., F.R.C.S. ENG.,

COLONEL, A.M.S.; CONSULTING SURGEON, EXPEDITIONARY FORCE, FRANCE.

IN an article on the Early Operative Treatment of Gunshot Wounds of the Alimentary Canal which appeared a few weeks ago in THE LANCET,[1] a promise was made to publish the results when a sufficient number had been collected. The table has been compiled to show primarily the nature of the operation performed. Under the "Remarks" column an attempt has been made to indicate to some extent the nature of the injury.

The cases from which the table is made comprise all the abdominal injuries from a certain sector of the line which reached a casualty clearing station or a field ambulance fitted for abdominal work. The period included both times of quiet and

[1] THE LANCET, Dec. 18th, 1915, p. 1336.

TABULAR STATEMENT OF ABDOMINAL GUNSHOT INJURIES

Operation or injury.	Base.	Died.	Remarks.
Suture of stomach.	9	7	Anterior wall, 8; anterior and posterior walls, 5; near œsophagus, 1; great curvature, 1; cardia, 1; serous and muscular coats only, 1. Fatal cases: Peritonitis, 1; primary hæmorrhage, 4; unnoted wound near œsophagus, 1; gas gangrene, 1.
Suture of stomach and small gut.	..	2	Lesions in small gut, 3, 5; anterior and posterior walls, 1; double perforation anterior wall, 1.
Suture of stomach; resection of small gut; gastro-jejunostomy.	—	2	—
Suture of stomach; resection of small gut; gastro-jejunostomy; artificial colon anus.	—	1	Lateral anastomosis of small gut. Five lesions of small gut; stomach divided; transverse colon divided.
Suture of stomach; artificial colon anus.	—	1	Anterior and posterior wounds of stomach.
Suture of stomach and small gut; gastro-jejunostomy.	—	1	Duodenum torn. Penetration of anterior stomach wall, 3; liver and kidney ruptured, 1.
Resection of small gut; circular enterorrhaphy.	11	33	Number of lesions: M.,* M., 6, 4, 3, M., 3, 7, 8, 6, 3, 3, 9, 12, 5, 4, 1, 6, 9, 1, 4, 4, 5, M., M., 3, M., 4, 2, 15, M., M., M., 1, 5, 2, 4, 7, 9. Inches resected: 8, 4, 48, 72, 24, 6, 36, 18, 30, 6, 24, 108, 48, 48, 4, 18, 24, 32, 12, 18, 24, 26, 36, 36, 36, 30, 24, 15, 6, 24, 18, 18, 10, 12, 6, 30, 18, 3, 23. Secondary short-circuit for obstruction, fatal, 2; double resection, fatal, 4; gangrene of thigh, fatal, 1; bladder also wounded, 3; iliac vein torn also, 1; serous coat of colon sutured also, 1.
Resection of small gut; lateral suture.	2	5	Lesions: M., 6, 8, 8, 4, 12 3. Inches resected: 144, 12, 96, 4. To transverse colon, 1; to ascending colon, 1. Double resection, fatal, 1; ureter wounded, recovered, 1.
Resection of small gut; artificial colon anus.	1	4	Lesions: M., 6, 3, 8. Inches resected: 114, 12, 12. Pelvic colon, 2; transverse colon, 1.
Resection of small gut; suture of colon.	—	3	14 lesions in small gut and 4 in colon, 1; 8 in small gut and multiple in colon, 1.
Resection of small gut; suture of cæcum.	—	1	—
Resection of small gut; suture of rectum.	—	2	Lesions in small gut, 7; 18 inches resected, 1.
Suture of small gut.	14	11	Number of lesions: 3, 1, 1, 5, 5, M., 3, 2, 3, 2, 2, 1, 5, 1, 1, 1, 1, 3, 2, 7, 1. Duodenum, fatal, 2. Large prolapse of intestine, 2. Secondary short-circuit, recovered, 1.
Suture of small gut; suture of colon.	—	3	Hepatic flexure, 1; transverse and descending colon, 1; transverse colon, 1.
Suture of small gut; suture of cæcum.	—	1	—
Small gut anus.	—	4	—
For small gut fistula.	2	1	Opening external wound.
Suture of small gut; artificial colon anus.	1	—	Pelvic colon.
Suture of cæcum.	4	—	— —
Cæcal anus.	2	3	—
Suture of colon.	11	13	Ureter also injured, 2; both pelvic colon cases. Spleen and liver ruptured, fatal, 1.
Artificial colon anus.	6	17	Ascending, 6; hepatic, 5; splenic, 3, iliac, 1; pelvic, 5; descending, 2; spleen and kidney removed, fatal, 1; iliac vein torn, 1.
Proximal colostomy.	2	3	For wounded rectum, 4; splenic flexure wounded, 1; spleen perforated, fatal, 1; bladder wounded also, 1.
Cœliotomy. No hollow viscus perforated.	28	11	Bleeding point found, 9; colon bruised, 8. Fatal cases: paraplegia, 1; continued hæmorrhage, 1; iliac vein torn, 2; vena cava torn and ligated, 1; extensive retroperitoneal hæmorrhage, 1; marked intestinal distension, 1; gas gangrene, 1.
Prolapse of viscera.	6	3	Stomach and colon, 2; stomach, spleen, colon, and small gut, 1; small gut, 1; colon, 4.
Loss of abdominal wall.	—	1	Stomach exposed.
Contusion of abdomen.	—	2	By shell fuse, jejunum ruptured, resection, 1; bladder, 1.
Tube to pelvis.	—	2	Too bad for further exploration.
For fæcal abscess.	1	6	Intraperitoneal.
Drainage of loin wound.	1	1	—
For wounded liver.	31	11	Fatal cases: gas infection, 1; multiple body injuries, 1; kidney also injured, 2; retroperitoneal, 1; biliary empyema, 1; jaundice, 5; biliary peritoneum, 1; cystic duct torn, 1.
Pancreas, exploration of.	—	1	In course of exploratory cœliotomy.
Kidney, excision of.	—	—	See "Spleen, excision of," *infra*.
Kidney, exploration of.	1	—	Peritoneal toilette. See also Liver 2 and Suture of stomach 2.
Kidney, wounded.	—	—	See "No operation," *infra*.
Kidney, loin exploration of.	1	—	—
Spleen, excision of.	1	4	Kidney removed also, 2. See also "Colon, artificial anus, fatal, 1."
Spleen, suture or packing of.	2	—	Stomach bruised also, 1.
Spleen, exploration of.	—	1	Death from hæmorrhage. See also "Proximal colostomy."
Bladder, suture of.	2	—	—
Bladder, suprapubic drainage of.	4	6	See also "Proximal colostomy" and "Resection of small gut, 3"; "Iliac vein torn, fatal, 1."
Ureter, wound of.	—	—	See also "Resection of small gut, lateral suture, 1," and "Suture of pelvic colon, 2."
No operation; absence of indication.	55	1	Liver probably wounded, 15. Kidney wounded, 4. Omentum prolapsed, 3. Fatal case developed hæmothorax and septicæmia.
No operation; moribund.	—	145	Post-mortem examination, when performed, showed the following lesions: multiple lesions of small gut, 15; stomach and liver, 1; spleen, stomach, pancreas, and liver, 1; ruptured spleen, 1; colon wounded, 4; rectum, 1; liver, 1; internal iliac vein, 1; bladder also wounded, 2.
	198	313	
	511		

* M. = Multiple injuries.

of strenuous fighting. The series may therefore be said to be a representative one. The two abdominal hospitals were about 5000 yards from the fighting line. At these arrived many cases which would never have reached a casualty clearing station. This fact has raised the total mortality 5 per cent. above that which it would have been had the two abdominal hospitals been excluded.

It may seem paradoxical, but, within limits, the nearer the surgeon gets to the firing line the worse will be his total mortality, and perhaps even his operative mortality.

The main facts may be summarised as follows:—

Total number of cases	511
Arrived moribund	145
Total mortality, excluding the moribund	45·8%
Total mortality, including moribund	61·25%
Considered with view to operation	366
No operation considered advisable	56
Total operations	310
Total operative mortality	53·9%
Total hollow viscera mortality	64·5%
Stomach (uncomplicated) mortality	43·75%
Small gut ,, ,,	63·8%
Great gut ,, ,,	60·0%

The following table (which is to be considered only approximately correct) gives the number of times that the different viscera were injured. The unoperated cases are not included:—

	Alone of hollow viscera.	With other hollow viscera.	Total.
Stomach	16	7	23
Small gut	69	21	90
Great gut	61	12	73
Liver*	—	—	48
Spleen	—	—	11
Kidney	—	—	13
Bladder	—	—	13
Ureter	—	—	3
Pancreas	—	—	1

* To the 48 cases another 15 cases should be added in which the liver was almost certainly injured, but in which no operation was perf.rmed.

Small gut.—Resection has a higher mortality than suture, but this is merely the result of the initial injury. The effect of increased injury is well seen in the rise of the mortality, whether after suture or resection, when other viscera are involved.

The actual junction line has rarely given trouble. There were three cases of obstruction due to non-toxic paralysis. Suture is to be preferred to resection except when there is a distinct saving of time by the latter method. The unpared edges heal well after suture; there seems no reason to fear sloughing on account of any commotion caused by the projectile.

A most striking thing about the soldier's small intestine is its emptiness—a great contrast to the loaded state of the great gut.

Stomach wounds.—Of 23 stomach wounds only 11 were uncomplicated by other lesions. The anterior wall was most often involved. The "typical" antero-posterior epigastric wound was not common. Extrusion of stomach contents was fairly frequent and depended on the time of the last meal.

Of the 7 fatal cases uncomplicated by wounds of other hollow viscera 4 died from the results of primary hæmorrhage. Reading the notes on the cases while making this table has impressed my mind with the seriousness of wounds in the epigastric region, and I am still inclined to advocate operation in all cases. Hæmorrhage is evidently to be feared here as in wounds in other regions.

The escape of the spleen in stomach injuries is so marked as to suggest that many such injuries never reach the surgeon.

Large intestine.—The large intestine was injured a greater number of times than its bulk would lead one to expect. The mortality was about 60 per cent. and largely caused by wounds necessitating the formation of an artificial anus. The actual cause of death was either peritonitis or, perhaps more frequently, septic infiltration of the retro-peritoneal tissue. There are not enough cases from which to draw a deduction as to the comparative fatality of wounds of different parts.

Wounds of the transverse colon are more apt to be multiple than those of the other parts.

Considering the extent of the injury the wounds of the great gut are much more fatal than those of the small gut, no doubt due to the greater toxicity of the great gut contents.

Liver.—Most of the injuries were explored on account of hæmorrhage or doubt as to the involvement of hollow viscera. Hæmorrhage usually ceases in a few hours unless a vein in the liver substance has been opened, when the bleeding is continuous and dangerous. A good many cases might have got well without operation.

Spleen.—There is good reason to think that a good many spleen cases get well of themselves and that it is only when the vessels are torn that the bleeding is excessive. The kidney and spleen seem to be not uncommonly injured together, while the stomach which lies so near escapes.

DIAGNOSIS OF FEVERS AMONG THE MEDITERRANEAN EXPEDITIONARY FORCE.

BY R. ATHELSTANE P. HILL, M.D. CAMB.,
LIEUTENANT, R.A.M.C (T.F.), MEDITERRANEAN EXPEDITIONARY FORCE; LATE PHYSICIAN AND CLINICAL PATHOLOGIST TO THE UNION MEDICAL COLLEGE, PEKING.

WHEN a patient from the Mediterranean has continuous fever without obvious cause, such as pneumonia, diphtheria, &c., the diagnosis nearly always lies between enteric fever (typhoid or paratyphoid), malaria (double tertian or æstivo-autumnal), and amœbiasis.

The commonest form of amœbiasis with fever is the condition described in 1907 by Rogers and called by him "presuppurative amœbic hepatitis." The name exactly describes its nature. It is very common, but it is also very commonly mistaken for something else. The clinical signs are most misleading, though nothing is easier to detect and cure when the physician is familiar with it. It is also of immense importance, as it sooner or later, after 24 hours or after many months with remissions, may develop into a liver abscess. It has two, and only two, constant features—fever and leucocytosis of a peculiar type. The other symptoms and signs, any or all of which may be absent or so slight as to be overlooked, or may very easily be attributed to other conditions, are as follows:—

1. Upward enlargement of the liver. This affects the relative dullness much more than the absolute and may be impossible to detect, except by comparison with the limits of dullness before onset.

2. Liver pain and tenderness. This, taken in conjunction with the impairment produced by the upward enlargement of the liver, closely simulates basal pleurisy, nearly always on the right side. The

weak breathing and the impairment over the upper parts of the relaxed lung are most deceptive, and a diagnosis of pulmonary disease is the rule. There may be actual pleurisy with friction sounds, though this usually means that a liver abscess is invading the lung. Pain at the diaphragmatic surface is felt at the point of the right shoulder and down the arm. This symptom, misleading if not understood, is practically diagnostic. Pain may be entirely absent or may amount only to slight discomfort when lying on the left side.

3. Tenderness over the liver or epigastrium is more common than pain, but may be entirely absent.

It is all-important to realise that amœbic hepatitis may often be present with no localising symptoms whatever. The fever is usually remittent by 1·5° or 2°, but it may take any form, high continued, low continued, or "relapsing." With the remittent type there are usually sweats, sometimes rigors.

Liver abscess cannot be distinguished with certainty from hepatitis unless there is a localised epigastric swelling, except by exploration or X rays. No other symptom—not even cutaneous œdema—is conclusive proof of suppuration. Therefore a suspected case of liver abscess should usually be treated with emetine for 18 hours before operation is undertaken. When an abscess has formed the only justifiable treatment is aspiration with a Potain bottle. A culture should be taken at once and a thorough course of emetine treatment given. Quinine or emetine may be injected direct into the cavity, but this appears to be unnecessary. No drainage is required. Failure of this treatment is due to: 1. A second abscess, which may burst into the first cavity, which should first be explored. 2. Septic infection. The culture will decide this; 85 per cent. are sterile before operation. 3. Insufficient emetine. For all ordinary cases of amœbiasis, whether of liver or intestine, ⅓ grain twice a day for six days is the proper and sufficient dose. Smaller doses often succeed, but cannot be relied on in every case. In very severe dysentery Rogers gives 1 grain in 5 c.c. of saline intravenously, injecting slowly. 4. Intercurrent disease. Amœbic conditions not uncommonly appear during the incubation of enteric fever, and any disease or operation, especially with hæmorrhage, may induce an attack of malaria in an infected subject.

No importance whatever attaches to the absence of a history of dysentery. Too often even physicians refuse to diagnose dysentery apart from hæmorrhage; whereas amœbic diarrhœa is exceedingly common and may last for months, with remissions, without a speck of blood appearing. Further, hepatic complications most commonly follow on ulceration of the cæcum; and if, as often happens, the inflammation is confined to this end of the gut, there is no diarrhœa at all. The symptoms then are either a daily soft motion if the mucous membrane is affected, or pain much like that of appendicitis, sometimes with constipation, if the process spreads towards the peritoneum. In nearly 30 per cent. of his cases of liver abscess in natives Rogers obtained no history of dysentery, and in 14 per cent. none of any bowel disturbance, though post mortem 98 per cent. showed ulceration or scarring. Amœbæ may be absent from the stools.

The following maxims are therefore applicable to patients from the Mediterranean:—1. Any Mediterranean patient may have amœbiasis of the liver apart from any history of bowel trouble. 2. Appendicitis in the Mediterranean is likely to be amœbic. 3. Any diarrhœa with semi-solid motions is likely to be amœbic. 4. "Colitis" should never be diagnosed till emetine has failed to cure. 5. "Right basal pleurisy" is usually amœbic liver. 6. "Lumbago" with fever is usually amœbic hepatitis. 7. Pain in the right shoulder with fever is diagnostic of amœbic liver. 8. "Liver abscess" should be first tried with emetine alone. 9. It is criminal to open a liver abscess unless it is already septic. 10. It is criminal to fail to give emetine after aspirating or opening a liver abscess. 11. A history of emetine treatment does not exclude amœbiasis unless you *know* it was adequate.

With this preliminary description of amœbiasis we come to the differential diagnosis of fevers without obvious cause. As already stated, they are usually enteric, malaria, or amœbiasis. When these have been excluded, we have to think of Malta fever, kala-azar, and tuberculosis.

The first line of examination is the blood count. Of these six conditions amœbiasis alone has constantly a leucocytosis. I have twice found a leucocytosis over 13,000 during the first paroxysms of an attack of benign tertian malaria, but it soon disappears. Uncomplicated enteric fever has a leucopenia. Malta fever, kala-azar, and tuberculosis (except tuberculous meningitis and occasionally pleurisy) are like enteric fever in this.

The next examination is the blood film. A diagnosis of liver amœbiasis is confirmed if the percentage of polymorphonuclear cells is lower than it would be in an ordinary inflammatory leucocytosis of the same degree. In this condition it is often about 75 with a high count, and rarely exceeds 80. Malaria will be distinguished from anything else by discovery of the parasite. If this is difficult to find, a strong suspicion will be aroused by a high proportion of large mononuclear cells. Of ordinary blood these are about 2 to 4 per cent.; in malaria 15 to 20 per cent. is a common count. This is also found in kala-azar.

In the great majority of cases malaria or amœbiasis will be found or excluded by these examinations, which can all, except the search for the parasite, be carried on with a 1/6 inch lens; and by the use of the Wright saline diluent the absolute and differential counts may be done at the same time. It is important to base the absolute count on not less than 100 cells, and the differential on not less than 300.

If any question remains the next test is the therapeutic test. Five grains of quinine four-hourly will subdue any malaria, except those severe cases in which parasites are easily found. It will not touch kala-azar. If the doubt is between amœbiasis and some other condition, such as tuberculous pleurisy, 2/3 grain of emetine twice daily will produce improvement in 24 hours and convalescence in three days. It must be continued for three more days to prevent relapse. I have never seen or heard of any serious ill-effects from a six- or eight-day course of full doses, but smaller doses longer continued (as they have to be if they are to be efficient) are said to produce chronic diarrhœa in animals. However, the chronic diarrhœa following dysentery after emetine treatment is usually due to fæcal concretions, perhaps retained by a slight stricture, and is curable by enemata and paraffin oil.

While these examinations are usually enough to determine the diagnosis, examination of the

fæces and serum must also be made unless the fever disappears at once on treatment. In pure amœbiasis or malaria it will disappear; if it continues the case is probably one of enteric; and it must never be forgotten that double infections are common. If examination of the stools discovers dysenteric amœbæ it is no proof that the fever is due to hepatic amœbiasis unless leucocytosis is present, but it is proof positive that a course of emetine is necessary. If it is a case of paratyphoid or of typhoid in an uninoculated person the development and maintenance of a specific agglutination reaction will in most cases indicate the diagnosis. A culture from the blood or fæces may settle it in any case of enteric; and usually the clinical course, with rash and enlarged spleen, will remove any possible doubt.

But if the result of examinations is negative and the course is atypical, we must at once think of the other three possibilities. Kala-azar at first closely resembles enteric fever, later it may be mistaken for malaria. The fever is usually of the high remittent type, with long intervals of apyrexia, as in relapsing fever, but of irregular length. Very often if the temperature is taken two-hourly there will be found to be two rises and two remissions in 24 hours. This, well marked, is almost diagnostic. The blood presents a special picture; there is a steady loss of polymorphonuclear cells, till an extreme leucopenia results. There is a loss, not proportionately severe, of mononuclear cells, with a rise in the percentage of large mononuclears. There is a loss, sometimes very severe, of red cells, but the colour index is unchanged. The spleen enlarges and becomes enormous, and the leishmania may be found in pulp taken by puncture. Practice and sometimes a very long search are needed to find it. The common complications are hæmorrhages and purpura, pneumonia, and cancrum oris. Any complication that produces a leucocytosis may cure the patient; otherwise the only treatment as yet of any value is heroic doses of quinine, 90 grains a day, which, according to Rogers, saves 25 per cent. Italian observers have reported cures in children by repeated doses of salvarsan, but their reports have not been confirmed.

Malta fever (Mediterranean fever, undulant fever) is characterised by the peculiar undulating temperature chart. The organism may be cultivated from the urine and a serum reaction is given. In low dilutions this reaction is suggestive but not conclusive evidence of the disease, and the paradoxical reaction agglutinating at low and high dilutions, failing at intermediate ones, is said to be common. The test should therefore always be tried with a considerable range of dilution, and agglutination with 1 in 100 or over is diagnostic. I do not know that any cases have been reported.

Tuberculosis should never be diagnosed in default of definite symptoms or history unless all other causes of fever have been excluded. It is of the utmost importance to remember that the upward enlargement of the liver in amœbic affections causes signs almost indistinguishable from those of early tuberculosis of the right lung, not only at the base; and that impairment and retraction at the right apex are not uncommon without any active tuberculosis. If tuberculosis is suspected the bacillus should be looked for by the antiformin method in sputum and fæces.

The routine may be summarised thus:—1. In *all* patients note the limits of liver dullness, absolute and relative, in front and behind, on admission; also the anterior margin of spleen dullness. 2. If fever is present or develops later look out for changes in these limits. 3. Count the white corpuscles. 4. Make a differential count and search for malarial parasites. 5. Examine the stools for amœbæ (before giving emetine). 6. Try the effect of emetine or quinine. 7. If necessary, examine the stools for typhosus group organisms. 8. After the eighth day test serum reaction for typhoid group organisms. 9. If necessary, cultivate the urine for the Micrococcus melitensis, and test serum reactions. 10. If necessary look for leishmania by spleen or liver puncture. 11. If necessary X ray for liver abscess. 12. If necessary look for tubercle bacillus.

If each hospital is provided with a low-power microscope and a hæmocytometer the great majority of cases will be diagnosed within 24 hours without reference to the pathological laboratory. All the first six examinations can be done without an oil immersion except the search for the parasites.

Note.—The Wright saline diluent may be made as follows: Mix when ready to use it, 1 part of solution of Wright's stain (probably 2/3, saturated Leishman's will do equally well) with 3 parts of dilute saline solution; shake well, and dilute the blood to 1 in 20 or 1 in 25. In North China the optimum strength for saline is 0·1 per cent., but the blood and circulation there are peculiar in several ways. In England I have got good results with 0·085 per cent. saline. With the right strength there should be immediate differential staining of white cells, without distortion, and complete disappearance of red cells except in kala-azar. Distortion means too weak saline, failure to stain too strong. A precipitate forming within an hour means that the Wright's solution is too strong and methyl alcohol should be added to it. For rougher work the methyl-green-acetic-acid method gives good enough results.

THE PUERPERAL FEVER FICTION AND THE NOTIFICATION FARCE.

BY W. E. FOTHERGILL, M.A., B.Sc., M.D. EDIN.,
HONORARY SURGEON, ST. MARY'S HOSPITALS FOR WOMEN; HONORARY ASSISTANT GYNÆCOLOGICAL SURGEON, MANCHESTER ROYAL INFIRMARY; LECTURER IN OBSTETRICS, UNIVERSITY OF MANCHESTER.

OUT of the vast aggregate of cases of pelvic infection there are some which may be roughly grouped together under the name "puerperal pelvic infection," because they come under notice soon after confinements and miscarriages. There have always been cases of this kind; but what attracted the attention of our forefathers was not the occurrence of odd cases, but the fact that in certain places at certain times numbers of patients were attacked one after another in rapid succession. There were, in fact, local epidemics of puerperal pelvic infection. One is said to have occurred in Thasos in the time of Hippocrates. A series of cases was recorded in Paris in 1746; another in Aberdeen in 1779–82; one in Leeds in 1809; one in Durham in 1813; one in Doncaster in 1842, and so on. The occurrence of these groups of cases led up to the idea that there was a definite "infectious" fever peculiar to lying-in women. Gordon wrote of the Aberdeen epidemic: "I had evident proof of its infectious nature and that the infection was as readily communicated as that of small-pox or measles." Another circumstance

that favoured the idea was the prevalence of fever and death in lying-in hospitals. The history of these institutions is a long and sad story. Let it suffice to say that before the days of antiseptics such hospitals were a hopeless failure and that their patients used to die just as the soldiers in military hospitals perished from wound infection and "hospital gangrene."

Thus arose the idea that as there were small-pox, scarlet fever, diphtheria, and enteric fever, so there was a "Puerperal Fever" (with capital P and F), peculiar to lying-in women. But doubts as to the truth of this idea sprang up long ago. Thus Gordon noted that the cases in the epidemic which he recorded were all attended by the same doctors and midwives. This observation was often repeated until it became clear that the infection was not, as Gordon thought, "as readily communicated as that of small-pox or measles," but that it must, in these series of cases, be transferred bodily from the vagina of one woman to that of another upon the hands and appliances of doctors, nurses, and midwives. It was still thought, however, that the infection was a special one and that the condition was a special fever.

The next step in advance was the recognition that no special infection is necessary for the production of puerperal pelvic infection; but that common dirt will suffice. The most effective dirt for this purpose is decaying organic matter. Semmelweis noted about the year 1846 that the patients in wards attended by students of medicine suffered more than those attended by midwives. The students spent part of their time in dissecting dead bodies; thus their hands were dirtier, from this point of view, than those of the midwives. When the students were made to wash their hands in a chlorinated solution their wards became as healthy as those of the midwives. Thus it was shown that there was no such special "infectious" disease as "puerperal fever," and that puerperal pelvic infection was the same thing as ordinary wound infection.

Then came the revelation of micro-organisms as a cause of disease—Pasteur, Lister, antiseptics—and all gradually became clear. Of course there was no such disease as "puerperal fever," because any lying-in woman may have her pelvic organs infected by one of many kinds or by a mixture of several kinds of micro-organisms, just as a wounded soldier or an injured civilian may have his wounds infected in various ways. The infected lying-in woman is no more "infectious" than the soldier with an infected wound or the surgical patient who has had an abscess opened. Thus died the "puerperal fever" fiction. But many of the public and some of the medical profession do not yet realise that it is dead. They still think there is an "infectious" or "catching" disease of lying-in women. The writer knew a medical officer of public health who did not like a woman with puerperal pelvic infection to be removed to hospital in a public conveyance. He seemed to think that because the condition was *infective* in origin it must be *infectious* in nature!

The explanation of the survival of this fiction lies in the fact that the term "puerperal fever" is still in official use in recording the cause of death and under the Notification of Infectious Diseases Act. The term came into use about the year 1716, and it should have been dropped about the year 1850. But, unfortunately, the Registrar-General actually began to use it in 1850, just after Semmelweis had proved that there was no such disease. Some years ago Dr. Tatham issued a circular letter to practitioners asking them to abandon the use of the term in filling up death certificates; but this request had little effect. The Registrar-General still classifies puerperal pelvic infection thus:—

Puerperal { Septicæmia. / Pyæmia. / Phlegmasia dolens. / Fever. }

This is rather like classifying wound infections as:—

Wound { Septicæmia. / Pyæmia. / Painful, in the leg. / Fever. }

Teachers, however, and writers of text-books are steadily omitting the term "puerperal fever" from new works and new editions. No substitute is required, as there is no definite condition corresponding to the term. In discussing the diseases of women we speak of "pelvic infection." The varieties of pelvic infection met with after labour we group under the term "puerperal pelvic infection." These words suggest not the memory of an abstract idea, a false mental conception exploded long ago, but a vast aggregate of cases which vary not only in the nature, the source, the route, the site, and the date of the infection, but also in the nature, the date, the severity, and the localisation of the inflammatory process which follows the infection.

In the year 1889, 40 years after Semmelweis had shown that there is no such disease, "puerperal fever" was included with small-pox, scarlet fever, diphtheria, and the like as a condition to be notified under the "Notification of Infectious Diseases Act." In 1899, by the extension of this Act, notification was made compulsory in all districts. One of our best public health officers has written: "The notification of puerperal fever will vary with the opinion of the practitioner as to what constitutes a definite case." It does. During the year 1912 the death-rate of so-called puerperal fever in Liverpool was 0·034, and the notification-rate was only 0·05. In Manchester during the same year the death-rate of the condition was 0·031, and the notification-rate was 0·19. Thus, though deaths from the condition were more prevalent in Liverpool than in Manchester, yet notifications were about four times as common in Manchester as in Liverpool. Of the notified cases 78 per cent. appear to be fatal in Liverpool, as against only 16·3 per cent. fatal in Manchester.

Such discrepancy shows that the notification of so-called puerperal fever is a farce. Births, deaths, and marriages may perhaps be counted, but it is just as impossible to enumerate cases of puerperal pelvic infection as to count cases of ordinary wound infection. The practitioner asked to notify cases so ill-defined in character is in constant doubt, and the outcome depends just as much on his own temperament as upon the nature of the case in question.

The sources of dubiety are many. In the first place, conditions which are not pelvic infection at all are notified just because they are "fever during the puerperium." Thus influenza, scarlet fever, pneumonia, and enteric are sometimes notified as "puerperal." Special infectious fevers apart, infections of parts of the body other than the genital tract are often notified if they occur soon after labour. The writer has seen mastitis, appendicitis, colitis, nephritis, cystitis, tonsillitis, and parotitis notified as "puerperal fever." He has also seen ptomaine poisoning so notified.

Much more numerous are omissions to notify cases which really are examples of pelvic infection. Many of these are so slight and transient that no one ever thinks of notifying them at all. But where is the line to be drawn? Every gradation exists between the infection that causes no complaint from the patient and the one that kills her. Very few practitioners notify infection following abortion. But if it is notified after a labour at 7 or 8 months, why should notification be omitted after an abortion at 5 or 6 months; and how distinguish between those at 5 or 6 months and those at 2 or 3 months? There is one abortion for every three or four full-time confinements, and many of them are followed by infection. A great many of these abortions are never seen by any medical man. Thus it is clear that infection after abortions cannot be notified to any purpose.

Differences of opinion arise as to the date, the nature, the source, the route, and the site of the infection in particular cases. Thus many argue that an infection which is already in the patient's pelvic organs before labour is not "puerperal." Others hold that "septic" infections are to be notified, but not those which are venereal, tuberculous, or due to bacilli of the colon group. Some again consider that a pelvic infection secondary to, say, appendicitis is not to be notified; for "puerperal" infection must come from without and not from within the body, and must arrive by way of the external genitals and not by the blood stream or across the peritoneal cavity. A patient had a vaginal discharge before labour and a febrile attack with arthritis after it. The case was not notified because (1) she was infected before labour, and (2) because the disease was gonorrhœa. An old appendicitis flared up after a labour and infected the pelvic organs. This was not notified because (1) the infection came from above, and (2) it was a case of appendicitis—not "puerperal fever." A torn perineum was covered by a diphtheritic membrane. The case was not notified because (1) it was an infected torn perineum and not "puerperal," and (2) it was diphtheria.

As to the lapse of time between the labour and the appearance of symptoms some medical men have a time-limit, after which puerperal infection is not "puerperal fever." The limit seems to vary from 10 to 30 days. Thus a stinking placenta was removed 17 days after labour, and the case was not notified because (1) it was too long after labour, and (2) the condition was sapræmia and not "septicæmia, pyæmia, phlegmasia dolens, or puerperal fever, which are the conditions recognised by the Registrar-General."

So there are many answers to the conundrum: When is puerperal fever not puerperal fever? Or, in modern language: When is puerperal pelvic infection not to be notified? Some answers would be: 1. When it is slight. 2. When it follows an abortion. 3. When it begins before labour. 4. When it appears some considerable time after labour. 5. When it is gonorrhœa (or any other definite disease). 6. When it is a torn perineum (or any other definite injury). 7. When it begins with appendicitis (or any other "'itis"). In different districts, also, notifications vary with the personal equation of the local medical officer of health. One medical man who had a doubtful case said there would be no trouble with the authorities because the medical officer of health was a gentleman who always took the word of his colleagues. Another said there would be no trouble because he was medical officer of health himself. It is clear that notifying cases of puerperal pelvic infection is like counting sunken submarines, of which Mr. Balfour said: "We have every gradation from absolute certainty through practical assurance down to faint possibility. Facts like these are not suitable for statistical treatment."

No one who considers the matter seriously thinks that the notification of so-called puerperal fever has ever done any good. Wound infection has never been notified, but it has been reduced far more strikingly than has puerperal infection. Hospitals are now nearly free from pus and quite free from hospital gangrene, and private surgical practice is carried on almost without suppuration. This has been secured simply by the spread of clean surgery. Also infection has been very largely banished from the lying-in hospitals and reduced in private obstetric practice, not by notification, but by the spread of clean midwifery, by the education, in short, of doctors, of midwives, and of the public. Yet considerable time, trouble, and thought, paper, printing, and public money are wasted every year on the compilation and publication of statistics based on these notification figures. It is to be hoped that no one reads them, for the public do not realise that these notifications are not cases, but personal opinions of different men about different cases, and that the results are most deceptive and misleading.

Another bad outcome of the "puerperal fever" fiction is the treatment of cases of puerperal pelvic infection in fever hospitals under the direction of men who are specialists in the treatment of real "infectious" fevers, but who have no special knowledge of the diseases peculiar to women. This anomaly is to blame for many things which are much to be deplored. In Birmingham the proper course has been adopted, for there these cases are treated, largely at the public cost, in a block within the grounds of the Hospital for Women, under the direction of the obstetric specialists who staff the hospital.

It is high time that the use of the term "puerperal fever" was dropped. It has been known for over 60 years that no such disease exists, but the abstract idea connected with the name will persist so long as the name continues to be used. Such fictions die very slowly, and if the harm they do is to be stopped they must be attacked actively and destroyed.

Manchester.

THE TREATMENT OF SEPTIC WOUNDS WITH THE SIMPSON LIGHT.

BY J. A. MENZIES, M.B., C.M. EDIN.,
HONORARY OPHTHALMIC SURGEON, ROYAL VICTORIA HOSPITALS OF DOVER AND FOLKESTONE.

AFTER using the Simpson light for over seven months I think the following notes on the treatment of septic wounds may be of interest, more especially at the present time.

The following may be regarded as among the distinctive features of Simpson light treatment.

1. The relief of pain. Nearly all the men treated by the Simpson light who before treatment were suffering pain from their wounds have volunteered the statement that since the treatment they have been free from pain, and this statement is frequently made on the day following the first application. Two patients in particular (Cases 3 and 4), who had suffered from sleepless nights owing to pain, have since the commencement of the treatment been entirely relieved from pain.

2. The increase of movement. Several who had suffered from stiffness owing to their wounds have presented themselves a day or two after the first application, and have demonstrated that they have regained increased movement. This statement, of course, does not apply to cases of wounded joints.

3. The relief of swelling. The inflammatory induration surrounding the wounds is greatly diminished, and this probably is the explanation of the relief of pain and stiffness. I have also found that tenderness is relieved and that redness surrounding the wounds frequently disappears soon after the light treatment is commenced.

4. Absorption of scar-tissue. This is shown in a most remarkable manner by the treatment of old scars on the cornea. As such cases do not come within the scope of this paper, I must reserve the notes for another time, but it is very extraordinary to see the change produced by the light in such cases. Not only can one with the naked eye see the scars on the cornea clear up, but there is also the positive evidence of increase of visual acuity resulting. This discovery of the definite absorption of fibrous tissue and of inflammatory exudation should, I think, open up a field for research which may throw much light on the beneficial action of this agent in the many apparently diverse conditions which have already been described in THE LANCET.

5. After the first or second treatment there is, as a rule, marked alteration in the appearance of the wounds. Unhealthy granulation tissue becomes a better colour and more even in surface, and the epithelium begins to grow in from the edges. In Case 1 there was a marked growth of the epithelium from both edges of the wound on the second day after the first application of the light.

6. The discharge from the wounds almost immediately becomes much diminished. This is a very marked feature.

Most of the cases treated have been in hospital for a considerable time before treatment was started, and healing had become arrested; or they were cases which had healed and the wounds had broken down again, after which progress became arrested. It should be noted that all those cases were treated in my own house, the installation being there, and only such as were able to get there—i.e., walking cases—could be treated. Over 40 in all were treated, and the following cases may be taken as typical examples. The dose given was two-and-a-half to three minutes at each sitting, and there were usually two sittings per week. When the patients were discharged from hospital the scars were very good and supple.

CASE 1.—Driver ——. Wound on the ulnar side of the elbow-joint, received in the autumn of 1914 This healed, but broke down again when the patient returned to the front in February, 1915. He was sent to me in July with a report that the wound had not made any progress since he was admitted to hospital over a month before The wound was about three inches in length and one inch broad, the granulation tissue was brown and lumpy, the edges were not undermined, and there were some pain and stiffness. On the day after his first treatment the patient told me that the pain had ceased and demonstrated increase of movement. Two days after the first treatment the granulation tissue looked a healthy red colour, and the epithelium was growing in from the edges. He had three applications of light, and was discharged from hospital healed on the ninth day after the first treatment, with a good firm scar.

CASE 2.—Private ——. Wounds received on March 11th, 1915, on the lower third of the leg. Two shrapnel wounds and one incision. A small piece of fibula had been removed. The surgeon reported that the wounds had been *in statu quo* for many weeks, and could not be induced to heal. There was no pain or tenderness, the granulation tissue had an unhealthy appearance, and there was some induration round the wounds but no redness. First treatment with light on July 11th. Twelve applications in all. Discharged healed on Sept. 24th. Healing was retarded in this case by an overdose of the light on July 21st. One of the wounds which had been healed broke down again, and swelling, redness, and pain also resulted. In consequence treatment had to be suspended for a fortnight, but after this the wounds healed more rapidly.

CASE 3.—Private ——. Wounded on May 21st, 1915; admitted to Royal Victoria Hospital, Folkestone, on May 26th. Sent for treatment with Simpson light on July 11th. The patient had a wound about two inches below the knee-joint. There was a large cavity in the tibia, about the size of a hen's egg, with some swelling and inflammation of the soft parts. The whole of the base of the wound was covered with necrosed tissue of the colour of wash-leather. The skin surrounding the wound was very red and ulcerated in places. There was extreme tenderness and the pain frequently kept the patient awake at night. There was very profuse discharge. There was also much stiffness of the knee-joint. This case was sent by the surgeon with the report that progress was very slow. On July 19th he reported that the pain had entirely gone, that the movement of the knee had greatly increased, and that there was much less tenderness. The surroundings of the wound were looking much more healthy; the swelling and inflammation were gradually subsiding. The discharge was much less, and also changing in character, being much less purulent. On July 31st practically all the skin surrounding the cavity had healed, the inflammation and redness were practically gone, there had been no pain since the second application of light, and the cavity was rapidly filling up. There was very little discharge. By August 14th the cavity was less than half the size, and was entirely lined with healthy granulation tissue. The skin surrounding the wound was almost practically white, and there was no swelling or tenderness. There were still, however, small spicules of bone coming away from time to time from the base of the cavity. The patient was sent to a convalescent home on Sept. 27th, as beds were urgently required. At that time the cavity was about the size of a blackbird's egg, epithelium was growing in from the edges, and apparently only a small surface about the size of a sixpenny-piece at the base of the cavity was unhealed. Treatment in this case was done twice a week.

CASE 4.—Private ——. Wounded on Nov. 7th, 1915. The patient had a bullet wound in the lower third of the thigh. The bullet entered on the outer side, coming out at the middle line behind. This wound had entirely healed and broken down again at the point of exit. The patient was sent for treatment on Jan. 22nd, 1916. He had severe eczema, spreading from the wound behind six inches up and to the outer and inner sides of the thigh. The whole surface was weeping, and there were many pustules. He complained of severe pain, which he said kept him awake at night. On the 25th there was very obvious improvement. The wound was healing, the pustules had entirely disappeared, and the whole of the eczematous skin was dry, with the exception of an area of about the size of a half-crown piece on the outer side. He volunteered the statement as he entered the room that he had had no pain since the last treatment, and had slept well. On the 29th the eczema had entirely healed, and the wound was all but healed. He was discharged on Feb. 3rd entirely healed.

I am able to confirm the favourable results reported by Dr. W. D. Harmer and Dr. E. P. Cumberbatch. I have seen great improvement following treatment with the Simpson light in three cases of lupus, one case in which tuberculous ulceration of the hand and arm of 18 years' standing was entirely healed. But I have also seen two cases of advanced Graves's disease in which there was very marked improvement. In both cases the thyroid became smaller, and the signs and symptoms decreased. Dr. Harmer and Dr. Cumberbatch report only negative results in the treatment of this disease.

Folkestone.

DIET AS A FACTOR IN THE CAUSATION OF MENTAL DISEASE.

BY CHAS. MERCIER, M.D. LOND., F.R.C.P. LOND.
LATE PHYSICIAN FOR MENTAL DISEASES TO CHARING CROSS HOSPITAL.

THE following cases have occurred in my practice in a period of about three years. I will first record them, and, with the permission of the Editor, will comment upon them in the next issue of THE LANCET.

CASE 1.—Footman, aged 27. Suffered for years from severe headaches, and for the last four weeks from that form of sleeplessness which consists in inability to get to sleep. For a few days suffered from attacks of dizziness, and one very hot afternoon in one of these attacks, he acted so strangely that he was taken to Bethlem, where he talked a great deal about the country being infested with foreign spies. (This was before the war.) He eats but little meat, but is very fond of fat—fat meat of any sort, butter, and dripping, which he spreads thick. Has four cups of tea per diem, with three lumps of sugar in each, or nearly a quarter of a pound in all. He was told to knock off his fat, butter, dripping, and sugar, and to eat more meat. During the next week he had one bad attack of headache and dizziness, and two slight headaches. During the second week two slight dizzy attacks, but no headache. In each of the next weeks he had one bad headache, and after this they finally ceased. He was now sleeping well, and completely recovered.

CASE 2.—Woman, aged 53. She feels muddled and dazed, and the feeling is so severe that it keeps her awake at night. With this there is pain in the head which also is severe. These symptoms have been gradually increasing for three years, and are now bad enough to prevent her from working. She does not care for meat. Eats it only at one meal a day, and not more than five days a week. She is fond of fat, but says she does not eat a great deal. Does not eat much butter or sweets. She is told to regulate her diet, and soon ceases to attend. Presumably her symptoms are relieved.

CASE 3.—Clerk, aged 26. A wave of confusion comes over him, and he falls down, but does not lose consciousness or hurt himself. For many years he has suffered from severe headaches, coming on once a month, so severe that they compel him to lie down. He goes to sleep and awakes prostrate. Even if they come on in the street he feels inclined to lie down then and there. His sight is not affected. He does not care for meat, lives chiefly on milk puddings. He is very fond of fat, and when he does have meat he eats the fat and leaves the lean. Takes very little exercise. Has had the headaches for 14 years, and they have been gradually getting worse. He is told to stop the milk puddings, to reject fat, and to eat lean meat at least twice a day. At the end of a week he reported himself greatly improved, and then ceased to attend.

CASE 4.—Telephone operator, aged 30. Very nervous. A sudden noise or being suddenly spoken to makes her start violently. She is losing her business memory—that is to say, she forgets what she has to do. She is so nervous that she screams when a dog comes near her, and cries when she enters a church. She suffers much from throbbing pains at the back of her head. She works in an underground room by electric light from 9 to 6. Her breakfast consists of bread-and-butter and tea. Lunch, tea and a bun. The same for tea. For supper she has three or four days a week a chop or eggs and bacon; on the other three or four days bread-and-butter. She is told to adopt a different diet and eat more meat, but as her wages are only 14*s.* per week she says this will be difficult. She ceased to attend, and the progress of the case is unknown.

CASE 5.—Married woman. She has been depressed for several years. The depression is now so severe that she contemplates suicide. Sleeps very badly, and has awful dreams. Cries for hours every day, and can take no interest in her work nor in her child. She eats little of anything; lives chiefly on bread-and-butter; does not care for fat, but is very fond of butter, and eats a great deal of it. Drinks much tea, and likes it sweet. Told to leave off sugar, to reduce her bread-and-butter to bread-and-scrape, and to eat meat. For the first week she did not improve, but it appeared that she had not modified her diet except in leaving off sugar. The necessity of complying with instructions was impressed upon her, and the following week she admitted, with evident surprise and reluctance, that she was better. She had not cried once, and now had hopes of recovery. Hitherto she had been certain that she would either die or go mad. From this time she improved so much that she slept soundly every night, became quite cheerful, and spoke with enthusiasm of the treatment, saying it had worked a miracle. She was told she need not attend any more, but three weeks afterwards she appeared again, having suffered a relapse. She said she was as bad as ever, but this was evidently an exaggeration. She was, however, very depressed; and upon inquiry it appeared that she had become pregnant. During her pregnancy she continued depressed, but with wide fluctuations. She dreaded her confinement, having had a very bad time with her previous child. However, it passed off fairly well, but she attended again with her month-old baby, with all her old symptoms as bad as ever. She was told to wean the child, and on the next visit she had improved, though the child was only partly weaned. She was urged to wean it entirely, which she did, and this time she rapidly improved, and in two or three weeks was completely well.

CASE 6.—Married woman, aged 26. She is very depressed at times, but her chief trouble is that she is so muddled about her work. She has always been such a good manager, but now, though she knows what she ought to do, she cannot do it. She has to be told what to do even in the simplest domestic duties, such as getting the baby's bottle ready. She is depressed by the sense of her own unworthiness, and imagines that her home, her husband, and her children are dirty, and that it is her fault. She has two children, and her husband, who, when in work, earns about 24*s.*, has been out of work for six months. She has been managing her mother's house as well as her own, and has half-starved herself in order that the children might have enough. The almoner's services were requisitioned, work was found for the husband, the patient was enjoined and assisted to get proper food in proper amounts, and in a month had lost all her symptoms.

CASE 7.—Salesman, aged 27. For seven years he has had a gradually increasing confusion of mind. When he hears people talking he does not understand what they say; it is as if they were speaking in a foreign language. When told to do anything he stands and looks stupid, until after a time it dawns upon him what is meant, and he does correctly what he is told. He is sometimes told that he does not know what he is talking about, and he says it is quite true that on these occasions he does not know. On one occasion on his way home he asked 20 or 30 people to direct him, though he knew the way quite well. He has only two meals a day, and meat at only one of these, and then not much. He has six cups of tea per diem with two lumps of sugar in each—nearly a quarter of a pound in the day. He was told to leave off his sugar and eat meat twice a day and more of it. At the next visit he was much better and then ceased to attend.

CASE 8.—Married woman, aged 25. She says "I have a funny feeling in my head, I feel half dazed, and don't know what I am doing. I feel I can't settle myself; I am so restless, I can't keep still. I feel as if I want to get about and do my work, but I am half silly, and can't do what I want to. I go off into screaming fits as soon as I am left alone; I don't know why, I am not afraid of anything. And I am so depressed. I suffer much from shooting pains through my head." She has meat always once a day, and sometimes twice, but not much. Has six cups of tea, with two lumps of sugar in each, and is very fond of butter. Eats the best part of a half-a-pound per day. She is told to knock off almost all her butter, and to eat bread-and-scrape, and to increase her ration of meat. In a fortnight she was much better. Her head, she said, was not quite as it should be; every other day she feels all right, but on alternate days she is much troubled. In another fortnight she was practically well, and thereafter ceased to attend.

CASE 9.—Dressmaker, aged 28. For three years she has become more and more depressed and nervous, and during

the last six months has been very bad. She is subject to attacks of pain in the head which used to last a few hours and went off if she lay down and kept quiet; but now they last two or three days and nights and sometimes for a week. They are brought on especially by railway journeys, even if brief. She is alone all day from 6.30 in the morning until 8 at night. Does not like sweets, but is fond of fat and eats a great deal of butter, fat meat, and fat bacon. No instruction as to diet was given to her on her first visit, and for the next fortnight she did not improve. Then she was told to reduce her butter to a scrape, to renounce fat in all forms, and to eat more of the lean of meat. In the following fortnight she had but one attack, but this was very severe. The journey by rail from Surrey gave her no discomfort. In the next week she had no attack until she took the journey to see me, which brought on a very slight one. In the following fortnight she had several attacks, one of which lasted all day and part of the night; the other three were slight. In the next fortnight she had but one attack, which, however, lasted all day, and a slight one brought on by the railway journey. In the next fortnight she had no attack, and then ceased to attend.

CASE 10.—Married woman, aged 33. For three months she has suffered from "nervous debility," by which she means that she is low-spirited, weeps for no reason, trembles, and imagines that something awful is going to happen. She is worst in the morning, improves as the day goes on, and is all right by tea-time. She is much alone, her husband being a clerk and absent all day, and she has no children. No note was made of her diet, but it must have been found faulty, for she received instructions to alter it. At the end of a week she was no better, but on inquiry it was found that she had not followed the prescribed diet. She was told to observe it strictly, and at the end of a week she reported that she had no depression to speak of. At the end of another week she reported herself well.

CASE 11.—Married woman, aged 55. A feeling rises from her feet to her head, where it becomes a tightness, and she feels sometimes as if she had had a blow on her head, sometimes as if her brains were being drawn out. The strange feeling in her head often wakes her in the night. She lives chiefly on bread-and-butter, but does not take very much butter; does not care for fat or sweets. Eats very little meat, never more than 2 oz. per diem, and some days none. She was told to eat meat twice at least every day, and in larger quantity. She did not attend again, but three months afterwards I heard from her that she became so rapidly better that she did not think it worth while to attend any more.

CASE 12.—Labourer, aged 45. For 20 years he has suffered at increasingly frequent intervals from severe pains in the head, coming through to the eyes. It comes on in the morning and lasts all day. Sleep is the only thing that relieves it. He looks much distressed, and says it drives him distracted, and he loses many days work through it. Cannot eat fat, does not like it, but is very fond of butter. Lives chiefly on bread-and-butter and cake. Drinks about 3 pints of tea per diem, in which he takes, I find by calculation, from 2¼ to 3 lb. of sugar per week. He was told to knock off his butter and sugar and to eat more meat. He returned in a fortnight in high spirits, extolling the treatment enthusiastically, and reporting that he had had no headache at all for ten days, a longer interval than he had known for many years. After this he ceased to attend and may be presumed to have recovered.

CASE 13.—Married woman, aged 28. Three weeks ago she had some "silly fancies." Turned against her husband and accused him of trying to poison her. Had a friend to visit her, and when the friend was gone the patient had a horrid fear that she was not gone. The patient had quarrelled with this friend and called her a liar. She now says that her husband is one of the best fellows going, and so is the friend she turned against. She has no such silly fancies now, but her memory is bad and her mind is confused. When she puts a thing down she cannot remember what she has done with it. She does not always know where she is, and sometimes gets out of a tram when her journey is only half complete. She is alone all day, her husband leaving home at 7 A.M. and not returning until 6.30 or 7 P.M. She has meat always twice a week, but no always three times. Lives chiefly on bread-and-butter. She was told to regulate her diet, but I do not know whether she did so. She attended for a month, during which time she did not improve, and she then ceased to attend.

CASE 14.—Married woman, aged 44. She suffers much from pain in the head, which keeps her awake at night, so that some nights she does not sleep at all. In addition to this she hears voices and sees visions. She constantly hears people talking, all day and all night. The voices are quite distinct, sometimes loud, sometimes a whisper; some of them are the voices of people she knows, others are strange to her. They repeat everything she says and threaten her. Once she was told that her husband was at Paddington Station waiting for her, and she took a cab and went to meet him. The voices abuse her, and their language is cruel, dreadful. Besides this, she sees faces at the window and at the door. Once a woman met her on the stairs, addressed her by name, and asked her about a ring she was wearing. The woman then went into a closet on the stairs. The patient followed her into the closet, but found it empty. The same night when she went into her own room she found three men there. One was a chef whom she knew, the others she did not know. One of these demanded money of her; and the chef said he was doing a dinner at Covent Garden and asked her to help him. She was about to give money to the man who asked for it, but when he stretched out his hand there was nothing to drop the money into. She could see the carpet through his hand. Up to that moment she had thought the men were real, but then she knew they were not. She put down the money and fled. She first began to see visions and hear voices 18 months ago. They are so real that she cannot help thinking they are real people talking to her, though she tries to think they are only fancy. She is not fond of meat, goes without it three days a week, and on the other days eats very little, and then only the fat. She is very fond of fat and butter. Lives chiefly on bread-and-butter, the butter spread thick, and puddings. She used to like meat, but left it off two years ago. She was advised to alter her diet, to eschew butter and fat and eat meat. She did not attend again.

CASE 15.—Married woman, aged 50. Has suffered as long as she can remember from incapacitating headaches. Wakes with them in the morning, and they go off towards night. She eats meat every day, but so little, not more than 2 oz. Cannot eat sweets, but is very fond of butter; spreads it thick upon her bread, and lives chiefly on bread-and-butter. Advised to alter her diet. Did not attend again.

CASE 16.—Mechanic, aged 27. "My mind," he says, "is always concentrated on myself. I suffer from a pressure at the back of my head. I am always wondering what is going to happen—whether I am going to fall down or faint away. I cannot sleep; never go to sleep till 2, and wake at 4 or 5." He never eats meat more than four days a week, and for the last two months only in the form of a ham sandwich, which constitutes his dinner. Eats but little fat, and not much butter, but is fond of dripping. Was told to modify his diet, but the progress of the case is unknown.

CASE 17.—Married woman, aged 53. Constant pain in head, which keeps her awake at night. Her mind wanders, and she pictures horrible things, such as people drowning. She sees these things when between sleeping and waking. Forgets what she has to do. Eats meat not more than three times a week, and then very little. Is fond of butter, spreads it thick, and eats a good deal, for she lives chiefly on bread-and-butter. Told to eat meat daily and reduce the bread-and-butter to bread-and-scrape. She did not carry out these instructions very faithfully, but slowly improved until in three months she ceased to see the pictures, slept better, and lost the pain in the head. After this she relapsed, the pain returned, and she saw people in her room at night. I then set the almoner at her to see that my instructions were carried out, and again she improved, this time rapidly and much. Subsequently, on the supervision being taken off, she again relapsed.

CASE 18.—Married woman, aged 36. For 18 months she has had attacks about the time of her periods of laughing and crying, with a feeling of suffocation. She forgets that she has done a thing, and does it over again repeatedly. She suffers much from headache at a spot on the right side of the forehead. Husband has been out of work for 18

months. She has had no meat for a long time. Never buys any. For the last 18 months has lived on oatmeal and rice. She ceased to attend, and further progress is unknown.

CASE 19.—Widow, aged 70. Pain in the head, giddiness, sleeplessness, shocking dreams. Between sleeping and waking has visions of murdering people. Lives chiefly on milk puddings and a little fish. Meat once a week, fish twice, and but very little of either. Does not get to sleep till between 3 and 4, and sleeps only for two or three hours. Told to eat meat every day, and a larger ration. In a week she had increased her sleep to 4–5 hours. In a fortnight she lost the visions. In three weeks she was sleeping well and did not dream. In four weeks she was sleeping 10–12 hours, but still suffered from pain in the head. In seven weeks she lost her headache, slept well, and did not dream. Volunteered that she was better than she had been for three years.

CASE 20.—Married woman, aged 42. Headache and throbbing of the head. Very nervous. Imagines things—that some one is fumbling with the handle of the door, and trying to get in; that her husband is unfaithful. Has no strength, and can take no interest in things. Bursts out crying without reason, and is depressed. Cannot give her mind to anything. Everything seems too much for her. It is becoming too much trouble to wash her child. She has meat once a week only—on Sundays. Told to eat meat daily. At the end of a month her depression had nearly gone, and she had no difficulty in attending to the child. Went for days without crying. She continued to improve, and in two months ceased to attend.

CASE 21.—Servant, aged 56. Pain and pressure on top of the head. Sleeps badly. Depressed. Cries a great deal, and thinks everyone is against her. Eats fat and butter, but not in excess. Is fond of sweets, and eats much cheese. Told to eschew cheese and sweets and eat more meat. She improved slowly and irregularly. In six weeks she was able to sleep "quite well." Her spirits improved a great deal; she lost her headache, but she was not well when, at the end of four months, she ceased to attend.

CASE 22.—Married woman, aged 24. Her nerves are bad. She cannot bear to be alone. Feels that if left alone she would commit suicide. So depressed that she always wants to sit down and cry. Terribly irritable. Has fits of panic with trembling. Lives chiefly on bread-and-butter and milk puddings. Eats a little meat every day, but very little, as she is not fond of it. In a fortnight she reported herself a little better. She had been eating more meat, but still not much. She was told that she must eat more, and at the end of a fortnight she reported herself very much better. In six weeks she could sit alone in a room if she knew there was some one else in the house. Had ceased to cry and had no trembling fits. In another fortnight she was practically well and ceased to attend.

CASE 23.—Unmarried woman, aged 22. Three years ago she was left by the death of her mother in charge of the house and of two younger sisters. For 12 months she has been out of health. Wanted to shut herself up and be away from everyone. During the last few weeks she has become worse. She imagines things, sees ghosts—her mother and brother, both of whom are dead. Last week she cried a great deal, and the week before kept laughing without provocation. One day she lay on the floor all day. She sleeps very little. No headache. For many weeks past her appetite has been very bad. For a fortnight she has eaten scarcely anything and for the last three days nothing at all. Her sister was told to urge and compel her to eat plenty, especially of meat, and carried out the instruction. In three weeks she was sufficiently improved to be sent to a convalescent home in the country, with instructions as to diet, for three months. She returned quite well. Said she feels all right, never cries or laughs irrationally, never sees ghosts; eats and sleeps well.

CASE 24.—Male. Pain in the head. Depression. Feels as if he were going out of his mind and as if he must do away with himself. Sleepless. No reason for the depression, and he cannot understand why he should feel it. Eats no breakfast, but has two raw eggs in milk. Not fond of fat, but very fond of butter and eats a great deal of it. Two eggs in milk for tea. Told to revise his diet, omit the butter and the yelks of the eggs, and to eat meat. In a week the pain in the head was lessened, but the depression and other symptoms continued. In another three weeks the headache was still further improved and he felt "much brighter." He then ceased to attend.

CASE 25.—Housemaid, aged 28. She has "dreadful thoughts." Her mind is confused. She "feels desperate." Cries a good deal and mopes. Cannot sleep. Cannot bear to be left alone, but people being with her irritates her. This has been gradually coming on for a year. She has not touched meat for 18 months. Has no breakfast and lives chiefly on bread-and-butter and milk puddings. She never has headache. She was told to revise her diet and eat meat, but she was not efficiently supervised, and it is doubtful whether she carried out the instructions very faithfully. At the end of a month she reported herself "certainly improved" and then ceased to attend.

CASE 26.—Widow, aged 77, says: "My head is in a muddle. I sit down to write a letter and I know what I want to write, but I can't write it. I often find I have written it wrong. All of a sudden things go blank and I leave words out. I am of a very worrying disposition and am always depressed." She suffers much from headache, and has to spend one day in every week in bed on account of it. For two years she has eaten no butcher's meat, but occasionally she eats an egg, or a little fish or chicken. Lives chiefly on milk puddings. Took to a vegetarian diet on account of indigestion. Does not eat much fat or butter, but drinks large quantities of milk. Seen once only.

CASE 27.—Married woman, aged 32. "I am tired of everything and everything is a worry. I can't think. I have such pain in my head it makes me forget everything. I sleep badly and all night my mind is on the work. There is something in my head that causes everything to be jumbled up." She eats large quantities of raw rice and starch. She eats more than a teacupful of rice every day (a tablespoonful of rice will make a pudding large enough for four people). She does so because it is company for her and stops her from thinking. She goes without her meals and eats rice instead. Seen once only.

CASE 28.—Farmer, aged 34. Lacks confidence in himself. Cannot concentrate his mind upon his work. Incapable of mental exertion. Little things worry him excessively and unreasonably. Sleeps well, but dreams much. No headache. Bad family history. Has been a vegetarian for three years, living chiefly on grape nuts, bread-and-butter, rice, macaroni, sago, and tapioca. Cannot eat fat and is very moderate with butter. Told to rearrange his diet and eat meat two or three times a day. In a month he returned much improved. He had an assured and confident demeanour; said he had a better grip on his work and had no difficulty in concentrating his mind.

CASE 29.—Married woman, aged 35. Has horrid thoughts and feels as if she were going out of her mind. Silly things come into her mind. The knives on the table suggest to her to do horrible things—injure herself or someone else. She thinks she has done things that she knows she has not done—things like injuring people. She has frequent headaches, with "golden zigzags." Never eats breakfast. Dislikes meat, often goes without, and when she takes any it is very little. Does not like fat, but is fond of butter and spreads it thick. Seen once only.

CASE 30.—Married woman, aged 48. "I can't think. Everything seems altered. I can't remember what things look like. I have two children, and I can't remember what they are like. Oh, yes; I know them when I see them. Everything seems getting more and more strange." Husband says she complains much of headache and sometimes of giddiness. Eats very little meat and a great deal of butter. Lives chiefly on milky puddings and bread-and-butter. Seen once only.

CASE 31.—Married woman, aged 37. Has a muddled feeling in her head and is apprehensive that something dreadful is going to happen, and such awful depression. Becomes frightfully tired after trifling exertion, but the worst is the confused, muddled, dazed feeling in her head. Suffers from headache. Has lived in India, where meat or poultry has been on the table two or three times a day, but the quality being so bad she rarely took it. Not fond of sweets or fat, but eats much butter and cream, and her chief diet is milky puddings. Seen once only, but I heard some months afterwards that she had taken my advice about her diet and was "almost well."

CASE 32.—Man, aged 42. Insomnia and depression. Has attempted suicide three times. Becomes confused in mind, so that he cannot take orders in his own shop. Not a great eater of meat; once or twice a week he goes without and when he does take any it is only once a day, and then very

little—not more than 2 ounces. Fish twice a week. Drinks much milk. When he feels low, which is pretty often, he eats nothing. Seen once only.

CASE 33.—Schoolmaster, aged 29. Breaks down and cries for no reason; has to rush out of the room to save himself from making an exhibition of himself by an outbreak of weeping. On one occasion he rushed off to a doctor, and as soon as he reached the consulting-room he broke down and wept. There has been some tendency to this for three years, but he has easily overcome it until the last month, during which it has become intolerable I saw him on May 1st, just after Easter, and he had been keeping Lent very strictly, but previously he had eaten very little meat, never more than one cutlet or an equivalent amount in a day. No other error in diet. No headache. Seen once only, but I heard from his doctor a month after I saw him that he had reformed his diet and was greatly improved.

CASE 34.—Man, aged 66. Looks much older than his age, and complains of loss of memory of the usual senile type. Forgets in five or ten minutes an occurrence, such as a visit from a friend. Begins to be suspicious and to fancy that his money is being kept from him. He is very careful of his money, but forgets where he puts it. Forgets the names of his children. Suffers much from neuralgia. Is very fond of sweets, jams, and puddings. Spreads sugar on his bread-and-butter. Eats meat only once or twice a week, and then very little. Seen once only.

CASE 35.—Male, aged 18. "I can't work. I can't do anything. I can't apply my mind to anything. I have a difficulty in getting up in the morning. It sometimes takes me an hour to dress. I get thinking about other things." A friend says there are times when the patient seems lost in thought and stands stock still, doing nothing; but when spoken to he can rouse up and go on with his work. He says he is a very bad meat eater. Never eats as much as there is on a mutton chop, nor anything near it. Not nearly as much as a slice off a sirloin. Lives chiefly on puddings, cakes, and bread-and-butter. Not fond of fat or butter. No headache. He is 5 ft. 10½ in., and still growing. Weighs 10 st. 5 lb. Seen once only.

(To be continued.)

OBSERVATIONS ON THE ETIOLOGY OF SARCOMA IN THE RAT.

BY ALBERT S. LEYTON, M.D. CANTAB.,
PROFESSOR OF PATHOLOGY, UNIVERSITY OF LEEDS.
AND
HELEN G. LEYTON, M.D. BIRM.
(From the Department of Pathology of the University of Leeds.)

SOME previous work[1] on the hæmolytic properties of the serum of rats inoculated with sarcoma showed us that these properties were to be found also in diseases of bacterial origin, and thus suggested an investigation into the possibility of a bacterial origin for sarcoma.

Adopting the hypothesis mentioned, we argued that the site of infection would probably be the cell nucleus, since most of the characteristics of malignant growth point to irritation of the nucleus. It appeared probable that the organism in question would be of very small size if it were to reach and penetrate the nucleus. Based on these two points, a series of experiments was carried out as follows:—

Rat sarcoma, after an immersion for 20 seconds in boiling water, was finely minced with the object of breaking up some of the nuclei, and the minced tumour made into an emulsion with saline solution. The emulsion was filtered through a Chamberland filter (B or F). The filtrate was plated out in the ordinary way on glucose glycerine agar and a streptothrix isolated in several cases. In similar fashion we have also isolated but not yet investigated a streptothrix from mouse carcinoma.

[1] Journal of Pathology and Bacteriology, vol. xviii., 1914, p. 434.

It seemed unlikely that a streptothrix, as such, would be a filter passer, but as they form spores it was conceivable that the passage through the filter had taken place in this condition. As a spore, too, it might more easily enter the cell nucleus and also reproduce the streptothrix, either directly or through an alternate generation. If this supposition were correct, the virus of the new growth should be found in the filtrate, and a corroboration of this hypothesis was obtained when, in the summer of last year, three rats, which had been repeatedly injected in the axilla with 1 c.c. each of sarcoma filtrate, developed tumours at the site of inoculation. It is, of course, well known that several sarcomata have a filterable virus, but we are not aware that it has been mentioned in connexion with the Ehrlich rat sarcoma. The first tumour noticed was of much slower growth than the original strain, but when inoculated into 18 rats it grew in four of them just like the original spindle-cell sarcoma, which it then resembled in all respects except in the number of "takes," which at that time was about 90 per cent.

In order to test the relationship of the streptothrix to the formation of sarcoma, it was injected several times into the subcutaneous tissue and into the peritoneal cavity of rats, and several were also fed with it weekly for some time. So far, a tumour has resulted in one of the fed rats only. In the mediastinum was a growth about the size of a cherry, together with several smaller ones. It has all the characters of a spindle-cell sarcoma and is inoculable. From it the streptothrix has again been isolated.

The streptothrix in question appears to be either very pleomorphic or several species are to be found in rat sarcoma. We have also isolated one by the same method from the washings of the hair of a sarcomatous rat, but not, so far, from that of a normal rat. Having regard to the precautions of technique, &c., against the possibility of error, we feel constrained to abandon the scepticism with which we approached the inquiry and to record the results so far attained. The paucity of positive results we look upon as corroborative rather than otherwise, since obviously all rats will not possess the intrinsic factor as well as the extrinsic (streptothrix) necessary for the formation of new growth.

In connexion with this "nuclear" hypothesis, we may mention that by the use of certain substances having direct nuclear affinity, which were kindly given to us by Professor A. G. Green, of the Tinctorial Chemistry Department of the University of Leeds, it is possible to compass the destruction and effect the cure of subcutaneous inoculated rat sarcoma. The tumour shrivels up into a hard mass and in time separates as a scab.

A HOME FOR PATIENTS IN THE LAST STAGE OF DISEASE.—The annual meeting of the subscribers of Ernsborough House, Exeter, was recently held at the local Guildhall under the presidency of Mr. E. J. Domville. The financial report showed that the ordinary expenditure had exceeded the income by £93. The chairman stated that during the year 15 patients had been admitted. During the year, he added, the staff had removed to a larger building, the gift of Mrs. Godfrey Walker, and they could now accommodate 20 patients instead of 8. Mr. Domville, in conclusion, appealed for increased financial support for this excellent home for "patients in the last stage of illness."

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Exhibition of Instruments.—Labour Obstructed by Ovarian Cyst.—Fatal Rupture of Bladder during Puerperium.—Chorion-Epithelioma following Vesicular Mole.—Presidential Address.

A MEETING of this section was held on Feb. 3rd, Dr. M. HANDFIELD-JONES, the President, being in the chair.

Dr. HERBERT R. SPENCER and Mr. E. A. BARTON showed a "Speculum-camera," a combined Fergusson speculum and camera fixed together by a catch, for taking photographs of tumours and the affections of the cervix and vagina.

Dr. HERBERT SPENCER also showed a Wire-fed Tubular Needle for use in closing vesico-vaginal fistulæ and a Needle-holder for Vaginal Hysterectomy and Deep Pelvic Work.

Dr. WALTER SALISBURY read a communication on three cases of Labour obstructed by Ovarian Cyst. Case 1: The patient had been in labour six days and the membranes had ruptured two days before her admission to hospital. The child was dead. A large tense cyst filled up the pouch of Douglas Dr. T. G. Stevens opened the abdomen and lifted the uterus outside A dermoid cyst of the left ovary, of the size of an ostrich's egg, was removed and a dead child delivered with axis-traction forceps per vias naturales. The abdominal wound was then closed, and the patient made an uninterrupted recovery. Case 2: A midwife, finding that the descent of the head was obstructed by a mass which could be felt per vaginam, sent for medical aid, but a living child, weighing 7½ lb, was born before the medical officer could arrive. The patient was sent into hospital, and Dr. J. B. Banister opened the abdomen, removing a semi-solid multilocular cystadenoma of the left ovary weighing 2½ lb. The cyst had ruptured and a large quantity of blood and mucoid material was present in the peritoneal cavity. The patient made a good recovery. Case 3: The patient was admitted into Queen Charlotte's Hospital in labour. In the pouch of Douglas there was a hard, fixed mass which was diagnosed as an ovarian dermoid. Dr. R. D. Maxwell opened the abdomen. As the pelvic mass was not very accessible, Cæsarean section was performed and a living child delivered. After this the tumour was removed. The patient recovered. Dr. Salisbury discussed the different methods of treatment that had been adopted in these cases. —Dr. SPENCER recalled that the method of treatment of the first case had been brought before the Obstetrical Society of London by himself 18 years ago, yet many unnecessary Cæsarean sections had in the meantime been performed in such cases. In the third case there might be difference of opinion as to what should be done in labour when the os was not dilated. Another treatment had not been mentioned which was much better than either waiting or Cæsarean section—namely, pushing up the tumour in the Trendelenburg position, which Bossi had shown 20 years ago to be quite easy. Under anæsthesia this might be still more efficacious.—Dr. MAXWELL also spoke.

Dr. FRANCES M. HUXLEY read a communication on a case of Fatal Rupture of the Bladder during the Puerperium.

Dr. CUTHBERT LOCKYER then read for the PRESIDENT a short communication on Chorion-Epithelioma following Vesicular Mole. The patient, aged 49, was delivered of a vesicular mole 20 years previously. In July of last year she expelled another vesicular mole. For three weeks she made good progress, then hæmorrhage recurred. Five and a half weeks after the passage of the mole the President saw her again in consultation, and, finding that the uterus had increased in size, performed hysterectomy. The uterus was found to contain a small mass of chorion-epithelioma which had invaded the muscular wall. The President asked: 1. With what degree of frequency does vesicular mole occur more than once in the child-bearing history of any woman? 2. What is the earliest period at which well-marked chorion-epithelioma is found to be present after the expulsion of a vesicular mole? 3. Does this disease perforate the wall of the uterus with any degree of frequency before expulsion of the mole? 4. What constitutes the difference between malignant vesicular mole and benign cystic degeneration of the chorionic villi? He suggested that the resisting power of the uterine wall might be a factor of some importance.—Dr. AMAND ROUTH said that 30 years ago it was thought that if a woman had a vesicular mole she would be likely to have a recurrence if pregnancy again occurred. He had, however, never known of a woman having such a recurrence. He agreed as to the difficulty of detecting the degree of malignancy in chorion-epithelioma, so as to be able to decide in what cases it was justifiable to remove the uterus if the lungs were already attacked or where it was hopeless to interfere.—Dr. LOCKYER replied.

The PRESIDENT, in delivering his inaugural address, called the attention of the section to the need of enlisting the sympathies and activities of general practitioners in the work of the society. At present the papers and short communications were contributed almost entirely by consulting surgeons and physicians, and the meetings were rarely attended by the family doctors, who possessed such excellent opportunities of following a case through its entire length and of watching the effects of varied forms of treatment. He pleaded for the appointment of special clinical committees to carry out a system of collective investigation and to obtain the assistance of large numbers of general practitioners in bringing forward and tabulating groups of cases. In the course of his paper he narrated ten cases of double uterus, and demonstrated that this abnormality was not so rare as physicians had usually deemed it to be. The clinical histories of these cases were given in detail and showed what an important bearing the subject had on diagnosis and treatment. There was much work still needed before we could hold accurate views on the latency of tuberculous disease in pregnancy, or again on the comparative advantages and disadvantages of scopolamine in the course of labour; the views of hospital workers and teachers needed to be tested by the experience of general practitioners, and it was only by a carefully planned effort of collective investigation that this result could be obtained.—Dr. AMAND ROUTH welcomed the suggestion that a committee should be formed to collect cases of double uterus.—Dr. SPENCER alluded to the urgent need of collective investigation of rare and important conditions. The treatment of cancer of the uterus was an instance. If all London hospitals interested in this subject would consent to report their cases on identical forms we should have an incomparable mass of statistics.

SECTION OF DERMATOLOGY.

Exhibition of Cases.

A MEETING of this section was held on Feb. 17th, Dr. J. H. STOWERS, the President, being in the chair.

The following cases were exhibited:—

Dr. GRAHAM LITTLE: 1. Sclerodermia with Concurrent Myxœdema. The patient was a woman aged 51. The disease began in 1902 with tingling sensations and pains in the limbs. In 1907 symptoms of Graves's disease appeared. In 1910 the sclerodermia started, and this was soon followed by myxœdema. Before 1910 the patient had had frequent attacks of paratyphoid, and had developed a condition resembling pernicious anæmia, which ceased after the teeth had been removed for pyorrhœa. In 1911, and again in 1912, thyroid gland was implanted into the tibiæ, with very marked improvement in the whole condition. The patient has been taking thyroid internally since, the myxœdema has disappeared, and the sclerodermia is very much less marked. —Dr. F. PARKES WEBER drew attention to the tingling sensations and pains in the limbs, which he regarded as premonitory symptoms of the sclerodermia.——2. Fungating Epithelioma of the Breast. The patient had a small tumour in the breast 11 years ago, which in 1913 had reached a size not exceeding that of a hen's egg. The swelling was treated with X rays and improved, but an X ray burn was caused, which resulted in the tumour ulcerating Since then a swelling of the arm has existed, doubtless due to cancerous infiltration of the lymphatic glands and vessels.

Dr. W. KNOWSLEY SIBLEY: A case of Unilateral Tuberculous Elephantiasis of the Leg in a female aged 23. The first tuberculous manifestation to appear was an ulcer on the calf when the patient was a child. Shortly afterwards she had an abscess over the hip, and six years ago developed lupus of the cheek, leg, and ankle, all of which healed up after two years' treatment. Three years ago an ulcer appeared on the left foot, and about this time the elephantiasic condition commenced. On the affected leg

were several verrucose tuberculous lesions.—Dr. J. J. PRINGLE regarded the case as one of tuberculous lymphangitis, a model of which was in the St. Louis Museum.—Dr. A. M. H. GRAY pointed out the frequent relationship between tuberculous lymphangitis and verrucose tuberculous lesions.—Dr. A. EDDOWES related a case in which the elephantiasis disappeared.

Dr S E. DORE: Dermatitis Herpetiformis. The case was somewhat unusual in the marked symmetrical distribution of the eruption and in the rapid way in which the condition responded to arsenic.

Dr. H. G. ADAMSON: A case of Recurrent Herpes in a boy aged 9. The first attack began when the patient was 1½ years old, and since then he has had about 30 recurrences.

Dr. J. M H. MACLEOD: A case of Necroses on the Fingers in a munition worker. The patient, a female, had to mould a certain composition paste, and she stated that other workers suffered from the same condition.

Dr. G. PERNET: A case of Multiple Comedones on the Forehead in a boy aged 8 years.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held at the Metropolitan Hospital, Kingsland-road, on Feb. 18th, Dr. Philip Hamill, the President, being in the chair.—Mr. Henry Curtis conducted a clinical afternoon and showed skiagrams demonstrating Deformities in Coxa Vara.—Dr. Edmund Cantley showed the following cases:—1. A case of Acholuric Jaundice, a condition peculiar to families, congenital, recurring, and associated with splenic enlargement. The jaundice is transient; bile is absent in urine, but present in fæces. Red blood cells readily break down and produce a yellow appearance. Toxæmia is a common occurrence. 2. A man, aged 55 years, with Sacculated Aneurysm of Ascending and Transverse Portions of Aorta, pulsating on left side of manubrium. Voice affected. Cause unknown. Patient improving under Tufnell's treatment.—Dr. J. M. Laughton showed a boy, aged 16 years, who had been in the army and obtained his discharge because of his inability to march. On examination an enlargement under the left hypochondrium suggested splenic enlargement, and a blood count showed myelocytic leukæmia.—Mr. M. R. Laurence showed (for Mr. R. A. Ramsay) a man, aged 29 years, with Enlarged Right Testicle and Secondary Deposits in Abdominal Glands (sarcoma beyond operation).—The President showed: 1. A case of Wasting of the Muscles of the Shoulder Girdle and Upper Arm in a man aged 25 years, closely simulating Erb's dystrophy, but really due to bilateral arthritis of shoulder with fixation of the joints. No satisfactory cause for the arthritis was found. 2. For comparison a case of true Erb's Dystrophy in a girl aged 16 years, a very unusual occurrence. 3. A case of Trigeminal Neuralgia in a woman aged 70 years, successfully treated by alcohol injection of Gasserian ganglion. 4. A case of chronically recurring Obstructive Jaundice with Enlargement of Liver and Spleen in a girl aged 15 years, in whom the corpuscular fragility was normal.

THE BRISTOL INFANT WELFARE ASSOCIATION.—Although the first school for mothers in this country was actually opened at St. Pancras in 1906, Bristol was the first centre where this work has been coördinated into a definite scheme. The first school opened in Bristol, with which Miss A. F. M. Cornall, F.R.C.S.Irel., was associated, was at Broad Plain, the second at Barton Hill. In January, 1913, the necessity for proper coördination in infant welfare work became apparent and a council was formed with the medical officer of health, Dr. D. S. Davies, as chairman. The assistant medical officer, Mr. J. C. Heaven, also joined the council, and later the school medical officer, Dr. R. A. Askins. Under this control the number of schools has increased up to fourteen, one of which has 200 members. Miss F. G. Robinson is the honorary secretary of the association, whose chief objects are to form a bond of union between all schools for mothers and kindred undertakings for the care of infant life which exist in Bristol. If all such undertakings in Bristol, worked on sound lines, have an adequate supply of medical help, trained teachers, and experienced workers, a central organisation would be formed through which all voluntary infant welfare agencies might coöperate usefully with the municipal health committee in their infant care work.

Reviews and Notices of Books.

The Roentgen Diagnosis of Surgical Lesions of the Gastro-intestinal Tract.

By ARIAL W. GEORGE, M.D., Assistant Professor of the Department of Roentgenology, Tufts College Medical School; and RALF D. LEONARD, A.B., M.D., Assistant in the Roentgen Department of the Boston City Hospital. London: Newton and Wright, Limited; Boston: The Colonial Medical Press. 1915. Pp. 306. With 7 three-colour illustrations, 18 artist's drawings, and 343 Roentgen plate illustrations. Price £2 5*s.* net.

IT is not sufficient to have an X ray plate in order to be able to recognise the condition which is present; it is necessary also to be able to read the plate, to understand the indications afforded by it, and to interpret them correctly. The best results are to be obtained by those who work in an X ray department and afterwards verify or correct in the operating-room the appearances shown on the plate. The next best method of utilising to the full the X rays in medicine and surgery is to study plates taken by experts and to compare them with illustrations showing the condition found at the operation. This book is intended to supply the student of "roentgenology" with plates showing the X ray appearance pictured and also the actual condition found, and we consider that the authors have carried out their purpose very successfully. They always employ intensifying screens in all their gastro-intestinal work, as it enables them to use a softer tube and a shorter exposure. They are also in favour of employing a buttermilk meal in preference to the standard "Reidel" meal. They rightly lay great stress on the necessity of always employing the same meal so that the conclusions drawn may be trustworthy. The authors have adopted the Roentgen terms which are recommended by the American X Ray Society. Some of them seem to be unnecessarily long. We are told that Roentgen is to be pronounced *ront-gen*, but we are not told whether the *g* is to be hard or soft. Roentgenogram appears to us to be a less convenient word than skiagram.

Précis de Pathologie Interne.

(Bibliothèque du Doctorat en Médecine publiée sous la direction de A. GILBERT et L. FOURNIER). Maladies de l'Appareil Respiratoire, par M. LOEPER. Agrégé à la Faculté de Médecine de Paris, Médecin des Hôpitaux, et O. JOSUÉ, Médecin de l'Hôpital de la Pitié; Maladies de l'Appareil Circulatoire, par M. PAISSEAU, Chef de Clinique à la Faculté de Médecine de Paris, et M. PAILLARD, Ancien Interne, Lauréat des Hôpitaux de Paris. With 175 illustrations and figures. Paris: J. B. Baillière et Fils. Pp. 748. Price 14 francs.

WHEN all the projected volumes, to the number of 30, of the Bibliothèque du Doctorat en Médecine have appeared they will form a handy-sized system of medicine, including the early studies; and if those yet to be published maintain the high standard set by those already issued the medical student in France may congratulate himself on the possession of a set of text-books at once complete, accurate, and up to date. The use of the word précis must not be taken to indicate that the scope of individual volumes corresponds with similar works in our own tongue variously termed "compends" or "aids," which are frankly intended as cram books for examination purposes. The size alone would preclude such a notion, for the volume recently issued is the second of four devoted to special pathology, and deals with disease of the lungs in 349 octavo

pages, and with those of the heart and vessels in another 372.

In the first portion of this volume general considerations are followed by directions for clinical examination—palpation, percussion, and auscultation—and instructions for the performance of exploratory punctures. Then are arranged categorical descriptions of the special diseases of the various portions of the respiratory tract under such headings as definition, bacteriology, etiology and pathology, pathological anatomy, signs, symptoms and clinical forms, complications, diagnosis, prognosis, and treatment. The microscopical appearances presented by the sputum in the different diseases are given especial prominence by means of coloured drawings, while the chief points in the cytology of pleuritic effusions are depicted in black and white; radiograms are introduced wherever their use gives information of diagnostic importance; and the illustrations of microscopical sections, though not numerous, have been selected with considerable care.

The second part, dealing with cardiac maladies, opens with a carefully written account of the methods of investigating the cardiac movements by means of the sphygmomanometer, the œsophageal sound, and the electrocardiograph. The diseases of the heart and blood-vessels are then detailed, the general arrangement of each corresponding with that adopted in the preceding section. Electrocardiograms are freely inserted, and occasionally radiograms are utilised. The diseases of the blood itself (with the exception of the septicæmias which are briefly mentioned in connexion with acute endocarditis) are not included in this volume. The volume is well got up and freely illustrated.

LIBRARY TABLE.

Back Injuries and their Significance under the Workmen's Compensation and Other Acts. By ARCHIBALD MCKENDRICK, F.R.C.S. Edin., &c., Surgeon in charge of Surgical X Ray Department, Royal Infirmary, Edinburgh. Edinburgh: E. and S. Livingstone. 1916. Pp. 173. Price 2*s.* 6*d.* net.—Injuries of the back are often exceedingly difficult to diagnose, for the patient may complain of pain and disability, and yet the surgeon can find little or nothing to account for the symptoms. Moreover, these cases often come into the law courts in claims for compensation, and conflicts of medical testimony may occur. In this little book the author has endeavoured to set forth the matter as clearly and plainly as possible, and since he starts from the very beginning, explaining the structure of the spinal column and the vertebral muscles, even a layman should be able to understand much of the subject. Some such knowledge is indeed desirable, for laymen have not infrequently to adjudicate on these cases. The author has put well in the preface the importance of these injuries: "The workman looks upon them with apprehension, the insurance company with doubt, the medical examiner with suspicion, the lawyer with uncertainty, and the court with as open a mind as is possible under the circumstances." The value of X rays in the elucidation of many of these cases is great, and the experience of the author in this branch of medical work increases the value of the book.

The Child: His Nature and Nurture. By W. B. DRUMMOND, M.B. Edin. London and Toronto: J. M. Dent and Sons. 1915. Pp. 223. Price 2*s.* 6*d.*—This little book is no stranger to those who are interested in child study, for it has already appeared in six previous editions as one of the Temple Primer Series. It is a serious little work, well written, thoroughly up to date, and representative of the best thought and opinion on the absorbing matters which are properly included in the title. There are two chapters which have not appeared in former editions; one of these deals with defective children and is entitled "Children who never Grow Up," and the other is a critical review of the Montessori method. With respect to the much discussed system of education, the author says there is little new in what it teaches, lack of humanitarianism, and small appreciation of the individuality, physical and mental, of the child, which it seeks to educate. Although Dr. Drummond does not say so in so many words, he perceives the weakness of the system in that it does not recognise that no action of a child is spontaneous, and that everything it does is the result of stimulation, is, in fact, "reaction," direct or indirect. The chapters on habit, as well as those on Froebel and the kindergarten, are quite admirable. No one who has a responsible connexion with the education or management of children should omit to read this little book. It contains most of what is valuable in the large and familiar text-books on school hygiene, the psychology of children and child study, stated succinctly and clearly. We have seldom read a book of the kind with so much pleasure and one that offered fewer openings for criticism.

THE LATE FREDERIC ANTHONY, L.R.C.P. LOND., M.R.C.S.—Mr. F. Anthony died recently at Mannamead, Plymouth, in his forty-ninth year. He was the eldest son of the late Professor Anthony of the Western College, Plymouth, and was educated at the Bristol Medical School, where he obtained the Martyn Memorial Scholarship. He was formerly medical inspector of schools under the Wiltshire Educational Authority, and was for 12 years in practice at Ramsbury, near Hungerford, where he was medical officer for the district and workhouse. About three years ago Mr. Anthony had to relinquish his practice owing to bad health, and since then had resided at Plymouth. He leaves a widow to mourn her loss.

MEDICAL DIPLOMAS IN A SALE-ROOM. — At Glasgow recently a man named Fisher was sentenced to a month's imprisonment for obtaining employment on board ship by falsely representing himself to be a registered medical practitioner. There was no case on board the ship during the voyage which demanded the exhibition of Fisher's medical skill, so that the £12 10*s.* which had been drawn by him as pay was not earned at the expense of any of the passengers, but the sentence does not seem to us to be severe enough for a very serious offence. An important point is to be noted by medical men with regard to the manner in which Fisher obtained the materials which enabled him to commit his fraud upon the ship's owners. He had supplied himself with diplomas by the simple, and not in itself dishonest, method of purchasing them with other papers at the sale of the effects of a genuine medical graduate. These had been put up to auction in a London sale room. Probably it does not often occur that a medical man, or his personal representatives after his death, allows such documents to be sold, but the oversight if it takes place may have serious consequences for innocent people, and should be carefully guarded against in the interest of the public and for the credit of the medical profession. Among the frequenters of auction-rooms there may at any time be dishonest persons or others who, having bought a lot for the sake of making a profit by re-selling, would not be likely to refuse an offer for papers of no value to them. The fact that the papers would be worthless in the hands of an honest man, and that they could only be profitable in the hands of a rogue, might not occur to careless middlemen, or, if it did, might not weigh very heavily on their consciences.

THE LANCET.

LONDON: SATURDAY, MARCH 4, 1916.

Health of Armies in Peace and War.

USEFUL light is thrown on the health of an army at peace by the report of the Surgeon-General of the United States on the Federal army for the year 1914, of which we give an abstract in another column. The army is, of course, a small one, and in these days of European conscription appears tiny, but its total is considerable enough to allow of sound deductions being drawn from the relative figures. Amongst more than 88,000 men, 41 died from tuberculosis, 15 each from pneumonia and chronic heart disease, and 10 from cancer, ratios not widely different from those for the British army during the five years preceding the war. The soldier's vocation is a healthy one at all events during peace-time, so far as the usual ailments of civil life are concerned. In regard to typhoid and small-pox he is in a specially favoured position in consequence of compulsory vaccination. Only 3 cases of typhoid among the 88,000 were contracted in the Federal army, and 7 cases of small-pox with a single death. If admission-rate is taken instead of mortality-rate, both venereal disease and alcoholism bulk largely in the figures, although showing a marked diminution in the last decade. It may fairly be concluded that, apart from the special temptations to excess, the health of the army in the United States in time of peace reaches a high standard, and this is the case with our own and with most other European armies. Turning now to conditions of war, it might reasonably have been expected that where armies are living under fighting conditions the figures would be less satisfactory. Our Paris correspondent, however, in his letter this week, gives details showing that this is not always the case. The more serious infectious diseases of civil life—scarlet fever and diphtheria, as well as mumps and less important ailments—have actually been less prevalent in the French army during the past year than in peaceful times. Typhoid has been more frequent but also less fatal, the care devoted to its treatment having been greater. Nothing, however, is said of the various special ailments of the present war—shell shock, soldier's heart, trench-foot—and the omission may be intentional. But apart from these and similar conditions, which are almost to be considered in the same category as the wounds of war due to actual fighting, the inference seems to be justified that the health of the French army has not been adversely influenced by the fact of campaigning.

Another series of figures has come under our notice in an analysis made by Dr. MOSSE, of Berlin, the author of a well-known work on Disease and Social Position, in a recent issue of the *Deutsche Medizinische Wochenschrift*. He puts to himself the questions: Is this or that disease in combatants now more frequent than in the corresponding age-class before the war? Can any variation now be determined with certainty in the course of particular groups of disease, and can these, if present, be put down without hesitation as a result of military service or campaigning? Dr. MOSSE tests these questions on the large material under his hand in the military hospital at Buch. He admits that the numbers dealt with are insufficient to establish more than a probability that the results are as he finds them. His first test was in connexion with diabetes. In the year 1914–5 among 1427 soldiers between the ages of 18 and 30, four had diabetes, three of them with marked acidosis. He compares this with the average figures given by the public health reports of the Prussian army in the years 1907–1912, 28 cases in 320,000 troops, and concludes: Diabetes mellitus is therefore more frequent among youthful combatants than in the same age-group during peace. Dr. MOSSE'S second test deals with nephritis, and here again in the soldiers sent back from the eastern field of battle a much larger proportion (4·3 per cent.) suffered from nephritis, nearly all in acute form and frequently hæmorrhagic, than in the army during peace (about 0·025 per cent.). This latter number is almost the same as the percentage of cases of nephritis in the two clinics of the Charité Hospital, Berlin, during the year 1910, a group which included chronics and old men. For phthisis and neurasthenia Dr. MOSSE is unable to advance any useful figures. He concludes with a reference to the extreme infrequency of infections: among his 6414 patients there were only 11 cases of typhoid, 2 of paratyphoid, 3 of cerebro-spinal fever, 3 of dysentery, 9 of scarlet fever, 2 of diphtheria, and 3 of small-pox.

The times are still not far distant when armies in the field were devastated by epidemic disease, and the French public health service may well be proud of the present state of affairs at the front, as well as the minute, almost microscopic differences, which obtain between the health statistics of their army in war and in peace. The Red Cross service has, since it was founded by HENRI DUNANT half a century ago, revolutionised the mortality among the wounded and has earned its meed of praise. The sanitary service of our own and other armies has grown up at the same time, with the result of steadily reducing the incidence of infectious diseases, and in areas where this service has had full scope it has almost abolished the severer risks. The brief account which we recently published under the title of "The Duties of a Sanitary Section in the Field,"[1] does no more than justice to this section, and we cordially endorse the words of the writer when he says: "It is good to think that there is such a body of expert workers who can assist the Royal Army Medical Corps in watching over the health and sanitation of the soldiers." As the outcome of scientific medicine the work of the British Sanitary Section is a legitimate subject of pride.

[1] THE LANCET, Feb. 19th, 1916, p. 432.

Statistics of Deaths from Violence.

BETTER statistics of a large class of deaths which are in one way or another preventable, and whose causation is for that reason a fitting concern of the State, are in great requisition. By better statistics we mean not only more accurately collected so that few instances may escape record, but tabulated in a more orderly and uniform manner, so as to be readily accessible, and subdivided under headings selected with a view to the maximum of useful information being obtainable under official guarantee as to its trustworthiness. An interesting pamphlet has just reached us, written by Dr. W. A. BREND, lecturer on forensic medicine at Charing Cross Hospital, which well indicates the importance of statistics as a basis for legislation in matters connected with human life,[1] and Dr. BREND has no difficulty in showing that there is room for vast improvement in our methods of dealing with official figures. We have separate reports, with good reason, from Government offices, each of which deals with fatalities occurring in the activities under its special purview, but Dr. BREND contends rightly that there should be uniformity in the methods of collecting and collating the figures, enabling the different reports to be compared with one another and with the reports of the Registrars-General of England, Scotland, and Ireland. Such a chance of general coördination would greatly increase the value of the whole series.

From the reports of coroners' inquests we should obtain useful statistics which are now practically useless because of the absence of system and of uniformity of areas. The return of coroners' inquests tabulates deaths according to coroners' areas, many of which are not co-terminous with any other areas, while their populations are not known and cannot be determined from any published source. In other returns the administrative areas are used, and in yet others the registration areas, while in his principal table relating to violent deaths the Registrar-General for England and Wales gives, as Dr. BREND points out, no local subdivisions at all. Moreover, the various reports from which statistics must now be extracted, and extracted according to his own principles by the individual inquirer, are not even unanimous as to the boundaries which they assign to the countries of the United Kingdom. The Registrar-General assigns Monmouthshire to Wales, the Home Secretary when issuing coroners' returns and the return of accidents from vehicles places it in England. The Isle of Man and the Channel Islands sometimes figure statistically as parts of England, at other times and in other documents they do not. Lack of uniformity is not, however, confined to areas. Dr. BREND points out that as between different returns there is variety of period, that of Jan. 1st to Dec. 31st being generally, but not universally, adopted. But there are also varieties of periods in cases where deaths are classified according to the ages of the deceased, and varieties of nomenclature, so that even such words as "manslaughter" and "abortion" mean different things when used by the Registrar-General and by the Home Office. We have referred to the desirability of headings being so selected that the greatest possible amount of information might be afforded by the statistics compiled under them. This clearly cannot be the case unless the returns of figures which appear beneath the various headings are obtained from the whole country, and unless the terms employed convey the same meaning in all the returns made.

Dr. BREND'S observations upon statistics as to the overlying of children prove very well the need for coördination among our various Government Departments in the matter of official records. The Home Office records 1173 verdicts of suffocation of children while in bed with their parents or others, but does not define "children," the verdicts being either "open" or the deaths being termed accidental. The Registrar-General records 1247 deaths of children under 1 year of age and deaths of 13 children between 1 and 2 years of age found suffocated in bed, but does not distinguish between those who have died when alone in their beds from those who were sleeping with other persons. The Registrar-General for Scotland records 97 deaths from "over-laying" of which 96 were of infants under 1 year. The Registrar-General for Ireland records 65 deaths, 57 being of infants under 1 year, as due to the absorption of deleterious gases (conflagration excepted), a form of heading under which deaths are also tabulated by the Registrar-General for England. It will be seen from the above that in Scotland deaths occurring from overlying have a heading to themselves, and that in England they form probably a large proportion of the deaths of children by suffocation when in bed with others; but we are reminded that not all of these are overlain. In Ireland deaths of this class are included among those due to the absorption of deleterious gases, but apparently are not further distinguished. It will be seen from this that anyone interested in the conservation of infant life, who might wish to deal with a highly important section of his subject, would be unable to do so with any accuracy as far as official records are concerned. He would find ascertained figures covering part of the ground only, and would have to supplement these for the rest of the kingdom by estimates and deductions. Similar difficulty exists in many other directions, although the machinery from which the greater part of the statistics requisite could be compiled is already in existence. It might be undesirable to burden coroners with the making of fuller reports, and difficult to ensure in all such reports a level amount of accuracy and detail. But undoubtedly there are classes of deaths of which our knowledge is seriously inadequate. Dr. BREND'S suggestion is that the task

[1] An Inquiry into the Statistics of Deaths from Violence and Unnatural Causes in the United Kingdom, with Special Reference to Deaths from Starvation, Overlying of Infants, Burning, Administration of Anæsthetics, and Poisoning. By William A. Brend, M.A.Camb., M.D., B.S. Lond., of the Inner Temple, Barrister-at-Law. London: Charles Griffin and Co. 1915. Pp. 80. Price 3s. 6d. net.

of coördinating the figures, duly ascertained by systematised methods, should be performed in the office of the Registrar-General from records forwarded by coroners, and he gives reasons why the task should not be overwhelming. Then, when the time comes for the consideration of such topics at our leisure, an inter-departmental committee might undertake the task of securing statistical uniformity. We believe that in certain forms of violent or unnatural deaths we should thus obtain a field for investigation and an opportunity, hitherto neglected, for saving life. This small volume is a clearly written and practical exposition of the subject, and points the way to a valuable reform in our administrative methods.

Annotations.

"Ne quid nimis."

THE HEALTH OF FEMALE MUNITION WORKERS

REFERENCE has been made frequently in these pages to the questions regarding the health and welfare of munition workers which have arisen out of the circumstances of urgency in which factories have been established to meet the demands of war. It is not a matter of merely temporary importance, for the workers concerned are citizens who will have to carry on the life of the nation when peace is established, and for this the preservation of their physical and moral well-being is necessary; we ought, moreover, to be able to learn valuable lessons to guide us in the elimination of some of the evils of factory life in the future. The undesirable conditions at present existing may be to a large extent of a transitory nature, but their after effects will be grave unless every possible effort be made to mitigate them. Men and boys, as well as women and girls, are concerned, and young persons of both sexes should receive special attention to their needs because of their value to the country in the future. It has to be remembered that a large number of munition workers of both sexes have had no previous experience of factory life, while many will probably leave it for other activities when the present demand for their services ceases. The need for Sunday rest, the evil of long hours, and the recommendations of the Munition Workers' Committee on the subject were referred to in our issue of Dec. 11th, 1915, and the recent Memorandum IV. of the Committee, commented upon in THE LANCET of Feb. 19th, will be found to contain a discussion in some detail of periods of employment with special regard to the case of women. The Memorandum also praises their patriotism, but it finds that conditions of work are accepted uncomplainingly which are detrimental to output at the moment, and which if continued would be disastrous to health. None can defend a system of prolonged toil, either now or in time of peace, which has not even the excuse of an improved output to justify it, and no doubt maintenance or reduction of output will be found to supply a test as to whether hours are excessive and should be curtailed for the protection of the worker's health. The assistance of the "welfare worker" is needed, as well as the supervision of the Home Office and the coöperation of employers, if the dangers of factory life in many of their ramifications are to be met, but persons with the desirable degree of experience cannot be readily obtained. Efficiency may, however, be found in those who undertake a special task for the first time, if they have had some experience of a cognate kind to guide them, while possessing willingness to learn and adapt themselves to new employment. A woman with motherly instincts and experience who has at one time nursed in a hospital, or who has some practical knowledge of plain cooking and of housekeeping, should not take long in accustoming herself to the ways and mental outlook of the munition worker, whether young girl or woman, and should be able to establish herself as the friend and guide which many of them need. In certain cases it seems likely that the functions will have to be combined, and a woman who has once done responsible work, with others under her, in the wards of one of our hospitals should have invaluable qualifications, both for the supervision and "nursing" of munition workers of her own sex. We say this because we think that there must be some so equipped who have not yet found a place in our military or other hospitals, and who may be seeking to do work useful to their country in its need. Many may be engaged upon "war work" of some kind already, but performing duties of a class that does not give play to their special talents. For these there is an opening if their circumstances allow them to avail themselves of it, in helping to obtain better food and better conditions for consuming it, better housing accommodation, and more wholesome lives for the women and girls who now are doing work in thousands under conditions hostile to their personal welfare. To furnish sound advice and to hold out, if needed, a warning and restraining hand will also be part of their functions and not the most easy to perform. It would enormously increase the chances of securing the right women for welfare work if there was a big fund from which to remunerate such service. The class in which the best women could be found have not as a rule substantial private incomes.

PULMONARY TUBERCULOSIS IN THE ARMY.

A LARGE number of men have been invalided from the army suffering from pulmonary tuberculosis, and correspondence has recently taken place as to the measures which should be adopted in regard to them. In a recent letter to the *Times* Sir Frederick Milner protested strongly against pensions of any kind being refused to these men, and quoted a case in which a man gave up a good place, where he was earning 35*s*. a week, to join the army, and was later discharged from service for phthisis. The Director-General of Medical Services was appealed to, who admitted that it was not in dispute that the man was quite healthy when he enlisted, that there was no trace of pulmonary tuberculosis in the family, and that the disease was contracted in the service; but he said that the Medical Board had decided that the condition was not due to service, thus throwing the responsibility of the decision on the Medical Board. A discussion took place in the House of Commons on Feb. 17th on an amendment to the Address, expressing regret that there was no mention of any intention on the part of the Government to accept responsibility for the payment of pensions and allowances to all soldiers and sailors discharged from the army and navy on account of diseases contracted or developed during service with the colours. Mr. Forster reminded the House that by

the terms of the Royal Warrant the disability or injury of a man, in order to qualify him for a disability pension, must be due to his service as well as having originated in it, and that a Medical Board certified whether disease was or was not due to a man's service. He further stated that it was a mistake to suppose that there was no appeal from that decision; the medical authorities and the whole of the staff of the War Office approached the consideration of the question in a spirit of great sympathy. It might be, he said, that some Medical Boards had been unduly harsh and narrow in their interpretation of the terms of the Royal Warrant. They ought rather to consider each case on its own merits, and no general rule could be laid down. A man who has only been enlisted three or four months and is then found to be suffering from pulmonary tuberculosis cannot be considered to have acquired the disease by military service. Reference has already been made in THE LANCET of Feb. 5th, p. 323, to a number of ex-sanatorium patients on active service, some of whom were known to have bacillary sputum, and we have recently heard of a private in a Scottish regiment with frequent blood in his sputum, and reduced to various expedients to conceal this and his other disabilities, whose condition was made light of by his regimental officer. On the other hand, if a man has been in the army for several years, being perfectly well during that period and giving no history of any previous chest disease and then, after 12 months' service in France, develops the disease, it may be said with justice that the malady was due to active service, and then undoubtedly it would be only fair that he should receive attention. But between these extremes many cases turn up when the decision is a difficult one. Some instances occur in which a history of previous pulmonary tuberculosis is given and in which arrest has taken place; then, of course, the condition has been "aggravated" by active service; in others perfect health has been previously enjoyed. We contend, therefore, that the Medical Boards are perfectly within their duties in ascribing some of the cases to line service, the specific cause being "exposure to climate and infection," for doubtless large numbers of men suffering from the disease must be recruited from the ranks of the "chronic carrier," to the production of whom by our present methods of sanatorium treatment a correspondent calls pointed attention in another column. In such cases full pension should certainly be given. Many questions arise as to the treatment of the men after discharge. If a man has been insured prior to joining the army the Tuberculosis Commissioners under the National Insurance Act take charge of him, and he is sent to a hospital or sanatorium. Much disappointment has been caused by well-meaning persons assuring the patients that they will at once be sent to a sanatorium, when it may turn out that a special hospital is indicated. Further, the difficulty that at once arises is that the men hesitate to take advantage of the treatment, especially if they are married, as they do not know how those dependent on them will be provided for. Here again the question of a pension becomes paramount, and it is urgently necessary that some immediate steps should be taken to provide the necessary funds. We are glad to hear from Mr. Forster that the Government has set up a new body, competent to deal with cases, tuberculous and other, that fall outside the strict limits of the terms of the Royal Warrant, and has indicated that these cases will have to be dealt with largely out of public funds.

MEASLES AND DISTRICT NURSING.

THE order for the compulsory notification of measles was, by a happy coincidence, issued just at a time when a committee of the London District Nursing Council was elaborating a scheme for the nursing of measles and whooping-cough. This important scheme has been accepted by the council, and is to form the basis in London of a more efficient system of home nursing which should serve to reduce the lamentable death-rate from measles and other diseases among the children of the poorer districts. The scheme has involved a modification of the existing rules of district nursing associations in order to admit of attendance on cases of infectious disease. It has also dealt very carefully with the position of the nurse in regard to cases in which no doctor had been called in, and the rules have been so drawn as to prevent the district nurse from assuming any responsibility for medical treatment. We hope there may be no delay in getting to the practical application of a scheme of such beneficent intention.

POSTURAL ACTIVITY OF MUSCLE AND NERVE.

MOST skeletal muscles present the property of tone, by which is meant a "slight constant tension which is characteristic of healthy muscle" (Hughes Bennett). It is a property which is difficult to measure, and as a term it has come to be applied not only to muscular action, involuntary as well as voluntary, but to such activities as "nerve centres," and even the "bio-tonus" of living matter. It is supposed to signify lasting or enduring action as contrasted with evanescent or passing. It is known that much of muscular tonus is reflex, and in a paper Professor C. S. Sherrington (*Brain*, 1915, vol. xxxvii., p. 191) brings forward important evidence to show that the chief function of tonus may be concerned in the general maintenance of posture in the animal, and this with the least possible expenditure of energy. A valuable key to the elucidation of this function in relation to skeletal muscle is the viewing of individual muscles not only from their isolated activities but from their activities in relation to general purposive efforts. For this reason reflex efforts, often involving complex actions, may give a surer clue to the meaning of any individual muscular act concerned therein than if the muscle were studied independently. Two supposed purposes of this skeletal tone are easily dismissed in so far as they are represented as being the principal functions of this property. That tonus merely obviates a muscle's "taking up slack" is hardly significant when the latency of a toneless frog's muscle is but 1/100 of a second. So, too, the view that tonus is an important source of heat production is not tenable, since it is found that the chemical energy concerned in tone is remarkably small. It is found that in the decerebrate preparation, where tonus is a well-marked feature, this property is limited exactly to those muscles which are in active contraction during the extensor phase of the step; the distribution of the tonus is arranged on a plan of strict coördination. This reflex tonus embraces just those muscles which counteract the effect of gravity; it is postural contraction. The afferent nerves producing this postural reflex are those of the contracting muscles themselves. The tonus can be maintained

with different tensions or lengths of the muscles, though in some animals there appear to be muscles separately concerned in postural contraction and movement respectively. Besides the afferent nerves of the muscles themselves being the source of the reflex, other sources may be present, especially those derived from the labyrinth. The centre of the reflex arc is pre-spinal, lying in or near the posterior region; the cerebellum, too, is concerned with refined adjustment and correlation. In the same way, postural contraction exists for such viscera as the bladder and stomach, the musculature in each organ being capable of maintaining an equal degree of pressure with varying lengths of muscle or varying capacity. The term "capacity" is in these cases similar to posture in skeletal muscle. Certain qualities of tonus are striking. For instance, the chemical energy involved by it is extremely low, very much lower than the energy consumed by a sustained tetanic contraction. It has been suggested that in postural contraction the muscle fibre or some part of it clots, changes from *sol* to *gel*, and nervous impulses must be capable of causing it to unclot. The sarcoplasm would seem to be the coagulable element. Certain diseases, such as congenital myotonia and myasthenia gravis, forcibly suggest that the functional mechanical activity of muscle is two-fold in nature—tonic and non-tonic. Since it has been shown that there are two kinds of motor endings in striped muscle, it is suggested that one is concerned with tonic contraction and is derived from the sympathetic. Finally, Professor Sherrington concludes, "reflex maintenance and adjustment of posture is a chief portion of the reflex work of the proprioceptive system, just as sensation of and perception of posture is a chief portion of the psychical output of that system."

HOME PROBLEMS AFTER THE WAR.

A VERY important movement has been begun under the auspices of the National Housing and Town Planning Council, having reference particularly to problems relating to housing and agriculture and to the possibilities of averting unemployment in the building trade. A national congress to consider "Home Problems after the War" is to be held at the Caxton Hall, London, from April 11th to 14th next, and an influential Parliamentary and organising committee has been formed. A preliminary programme of the subjects to be discussed has been drawn up. It is very rightly pointed out that the country has a debt to pay to those who have in a fine spirit of patriotism responded to her call. But unless there is shown a readiness to prepare plans and schemes to be placed in operation at the close of the war, the country may be plunged into a grave crisis of unemployment, and those men who are serving their country by land and sea may return home to face "out-of-work" conditions, with all the waste of public money and individual suffering that unemployment brings in its train. It is not suggested that the State should provide capital for the purpose before the close of the war, as clearly the whole of the financial resources of the kingdom should be concentrated on war work. It is most desirable however, that plans should be prepared, designs exhaustively considered, areas in which houses are to be built properly planned, provisional agreements for the purchase of land arranged, and all the preliminary details completed ready for actual building operations to be commenced without delay when the war closes. The subjects for discussion at the congress include the need for financial help in schemes for the clearance of insanitary areas, when the results in better citizenship and greater productive capacity, which will accompany the raising of the standard of life of the people as the outcome of the improvement of housing conditions, can be considered. Among other important questions to be discussed are the provision of homesteads with small holdings, the intensive cultivation of land, and the finding of capital to aid all classes of cultivators of the land and developers of our rural resources. The importance of the work which this organisation is taking in hand is so obvious that the movement should receive widespread encouragement and support.

TUBERCULOSIS IN THE PIG.

AN interesting study of the special features of porcine tuberculosis is given in two papers published in the *Annales de l'Institut Pasteur* for November and December, 1915, by M. P. Chaussé. The first of these contains a critical review of previous work upon this subject. From the statistics given in these papers it would appear that tuberculosis is much more common in pigs in some countries than in others, the morbidity found at different abattoirs varying from less than 0·1 per cent. in those in France to as much as 10 per cent. in the Argentine and in Germany. Reference is made to an annotation on the observations of Dr. A. Eastwood and Dr. F. Griffith published in our issue of May 2nd, 1914, in which among 24,144 pigs examined at Brighton 2·73 per cent. were found to be tuberculous, of which about 1·5 per cent. showed generalised lesions. At Versailles during the four years 1910–13 the incidence was found to be from 0·44 per cent. to 0·63 per cent. As a result of his observations M. Chaussé arrives at the conclusion that whereas man, the ox, and the dog are usually infected with tuberculosis by inhalation, the pig is almost exclusively infected through the tonsils and the cervical lymphatic glands. He is of opinion that this is due to the fact that the pig is often fed upon waste milk, mixed from various sources and not sterilised. It would appear that the lung of the pig is only affected when generalisation occurs, when it shares with the liver and the spleen the liability to the greatest number of lesions. The kidneys are very rarely involved, as is also the case in man, the ox, the dog, and the guinea-pig, while in the rabbit generalisation often involves the kidneys very severely. The tuberculous virus seems to have the smallest affinity for the kidney in the pig and the guinea-pig. M. Chaussé finds that the sensitiveness of the pig to the tubercle bacillus is very great. The encysted and latent lesions so frequently seen in man and the ox do not occur in the pig, whereas generalisation of the lesions, which is relatively rare in man and the ox, is the rule in the pig. Lesions in the peripheral lymphatic glands and in the bones are particularly common in swine, and wherever the parenchyma of any organ is attacked by tubercles the regional lymphatic glands are constantly affected provided the animal survives for a sufficient time. Neither fibrous transformation nor any other form of retrogression occurs in porcine tuberculosis; on the other hand, caseation is early and frequent. M. Chaussé explains the differences of incidence in different animals as follows. He supposes that with a tubercle bacillæmia of given intensity in the pig many of the bacilli will lead to lesions in the lungs, the liver, and the spleen, whereas in the dog and the ox a large number of the organisms are

destroyed in the blood, and only a few survive, causing scanty visceral lesions. With small doses in the dog and the rabbit all the bacilli may be destroyed by phagocytosis.

DEAFNESS AND MUTISM DUE TO A SHELL EXPLOSION CURED BY INHALATION OF ETHER.

IN the *Boston Medical and Surgical Journal* of Jan. 27th Dr. D. P. Penhallow has reported from the American Women's War Hospital, Paignton, the following case. A soldier, aged 25 years, was admitted on July 30th, 1915, suffering from marked emotional shock. While in a trench at Ypres on July 1st two shells burst, the first near his feet killing six men and leaving only him and a sergeant, the second near his head. Strange to say he was not wounded by either. The noise was terrific and after the explosion everything became dark and he apparently lost consciousness and knew no more until he found himself in hospital at Rouen. When he regained consciousness he was deaf, dumb, and blind. A few days later he regained his sight and soon afterwards could hear in one ear. On admission he was a well-developed and well-nourished man, rather confused, vague, and nervous. On his first night in hospital he was said to have answered a question asked him by the nurse as to his trouble by the word "concussion." Except on that occasion when asked to speak, he could make only expiratory efforts, but no sound. When asked to whistle he did the same. He was still deaf. If spoken to he paid no attention, but on clapping the hands near his ear or attracting his attention he seemed to understand what was said. He intimated that he could hear a little better with the left than the right ear. Coördination, sensation, and movements were apparently normal. There was marked tremor of the hands but none of the tongue. He walked with a slow, deliberate, careful gait, with his eyes on the ground and toes flexed, and held rigidly—a typical "tight-rope" gait. With the eyes closed he nearly fell and he could not stand on one leg. The knee-jerks were moderate. On testing the plantar reflex he pulled the whole body away and a general body tremor followed. The toes were spastically extended and later flexed. To the small electric light there was marked photophobia. On Sept. 22nd he apparently could hear well, his gait had become normal, and the tremors had disappeared, but he still could make no vocal sounds. On Oct. 1st it was decided to give him ether to see if the relaxation would cause him to regain speech. During the induction he reviewed in a loud tone the whole scene which occurred when he lost his speech. On recovery from the ether he could talk perfectly well. He stated that he could hear much better than at any time since admission. Dr. Penhallow regards the case as an unusual manifestation of hysteria, the result of the strain at the front to which men are constantly exposed.

THE PURIFICATION OF VACCINE LYMPH.

IN our issue of Dec. 4th, 1915, p. 1259, we had occasion to notice a communication in *Il Policlinico* of Oct. 24th by Professor L. M. Spolverini on the advantages obtained by treating glycerinated lymph with oil of cloves. Attention was drawn to the researches of Professor O. Leoni, of Rome, and of Dr. S. M. Copeman, F.R.S., of the Local Government Board, in this country on glycerinated lymph, and we mentioned that while the addition of glycerine had been used as far back as 1870 merely with the object of preserving the lymph, Leoni in 1894 had shown its beneficial effect in purifying it from bacterial contamination. In justice to Dr. Copeman, however, we should also have mentioned that this observer's first paper on the subject was published in the Transactions of the International Congress of Hygiene in 1891, three years before Leoni's work, which was referred to by him in later papers as confirmatory of his own.

WAR SHOCK IN THE CIVILIAN.

WHILE the stress of war on the soldier is discussed, it should not be forgotten that the nervous strain to which the civilian is exposed may require consideration and appropriate treatment. In its extreme form it is to be found in the old French peasant woman living within sound of the guns, who lies awake all night picturing to what her soldier sons are exposed, and fearing what may be the news of the morrow. Or we see it in the children who after residence in a bombarded town wake in terror at night to the slightest sound which suggests to them the horror of the exploding shells. In this country, further removed as it ordinarily is from the actual scenes of warfare, naturally these are not present in the same degree, although by no means uncommon. Professor Louis Rénon, physician to the Necker Hospital in Paris, has recently published a study under the title "L'Angoisse de Guerre et son Traitement," [1] of which he has observed some hundreds of cases within the last eighteen months. He finds the clinical characters fairly constant, a neuropathy associated with certain definite physical signs. There is generally a neuropathic or arthritic soil and the abuse of alcohol predisposes. Insomnia is nearly always an antecedent. A special form of anxiety is present aggravated by the slightest impression from without, such as the receipt of a letter or telephone message. The disposition becomes unstable and the temper uncertain. Weight is steadily lost. Of physical signs, tachycardia is constant, varying from 90 up to 120 beats per minute; arterial tension is reduced, epigastric pulsation frequent. The tendon reflexes are increased, while the cornea and pharynx may be anæsthetic. Dermography is nearly always present. The malady is no new one, and M. Laumonier has recorded its occurrence "on the occasion of all great catastrophes, earthquakes, fires, epidemics, and the like, which expose the individual to an intense mental shock." Professor Rénon considers that it is only remotely related to the psychoses of war, and is due rather to a fault of equilibrium due to failure of normal sympathetic nerve currents, especially from the solar plexus. He therefore calls the condition a "plexataxy.' For treatment he relies on psychotherapy directed towards convincing the patient that the ills are less grave than he supposes; on the sedative effect of warm baths, in which the famous "tilleul" (infusion of lime-tree flowers) is not to be despised; and on a course of remedies soothing to the nervous system, such as lupulin, drosera, jusquiame (henbane), and the like, with teaspoon doses of 2 per cent. bromide of calcium if the other remedies fail. Professor Rénon's remedies may seem to have a local colour, but his general teaching is doubtless of wider application.

[1] Société de Thérapeutique, Jan. 12th, 1916, and Journal des Praticiens, Jan. 15th, 1916.

AMŒBIC DYSENTERY.

AN excellent monograph on this subject from the pen of Professor V. Gabbi [1] has just been published under the auspices of the School of Tropical Diseases attached to the Royal Medical Clinic of Rome. We have only space to notice a few points likely to be of interest to our readers. Professor Gabbi thinks that the balance of evidence is very largely in favour of the Entamœba histolytica being the true cause of this form of dysentery, and points out several marked characteristics which differentiate it from the Entamœba coli. The movements of the former are rapid and energetic, whereas those of the latter are exactly the opposite. In the granular endoplasm of Ent. histolytica red blood cells and their fragments are almost always present, while they are never seen in Ent. coli. There are vacuoles in Ent. coli, but not in Ent. histolytica. The nucleus in Ent. histolytica is situated eccentrically, has ill-defined outline, and a diameter of 4 to 6 μ. is of oval shape, with but little chromatin, has a vesicular nucleolus, and is often partly hidden by the granular endoplasm. The nucleus of Ent. coli has well-defined outlines, a spherical shape, is sharply differentiated from the granular endoplasm, contains much chromatin, and has an indistinct nucleolus. In Ent. histolytica the pseudopods are thick and formed of projections of the hyaline protoplasm; those of Ent. coli are thin and finger-like, soft and flaccid, and are formed from the endoplasm. In Ent. histolytica the cystic stage is represented by a spherical body with sharp outlines and contents of a uniform pale grey without any apparent structure; in Ent. coli the contents are clear and transparent and covered by a transparent gelatinous membrane. In Ent. histolytica asexual multiplication takes place by binary fission or gemmation, or sexually by cysts giving rise to resisting spores, while in Ent. coli asexual reproduction is by binary division or by the formation of eight daughter cells; sexual development originates in the nucleus from which eight small nuclei or amœbules arise. The cysts of the two kinds of Ent. amœbæ are difficult to distinguish; those of Ent. histolytica are, however, not so distinctly spherical, are smaller and more refracting and grey in colour, containing four nuclei instead of a large vacuole. While laying stress on the efficacy of intramuscular injections of emetine as a cure both for acute and chronic cases, Professor Gabbi states that in rare instances it is ineffectual: in which case recourse must be had to other drugs, such as decoction of simaruba officinalis in doses of six grammes in 200 c.c. of water; a wine made from Rokra, a Madagascan plant; the seeds of Brucea sumatrana, or a decoction made from Ailanthus glandulosa. For local treatment he mentions injections of thymol (1–6000), nitrate of silver (1–1000), quinine (1–1000), sulphate of copper (1–2000), boric acid (1–100), tannic acid (1–500), and permanganate of potash (1–4000), but has found that, with the exception of the first three, they are without effect. He further advocates attention to the following personal rules: avoidance of exposure to cold draughts, which induces digestive disturbance and diminishes the resisting power of the intestines; of excess of food; of the use of alcohol, especially in the tropics, so as not to create in the liver a *locus minoris resistentiæ* conducive to the formation of abscess; and of the use of iced and cold beverages. He further advises that the use of boiled water should be from time to time suspended and natural mineral water drunk in its place.

[1] Malaria e Malattie dei Paesi Caldi, Anno vii., Fasc. I., January-February, 1916. Rome, Via Farini, 62.

THE LOSS OF THE "MALOJA."

WE regret to learn that Mr. W. K. Miley, senior medical officer of the Indian Emigration Department, lost his life in the *Maloja*, the splendid boat of the Peninsular and Oriental Line which was sunk on Sunday last off Dover—it is said through contact with a mine. Fortunately, Mr. E. Kennington, the ship's surgeon, is saved.

For the second time in two months copies of THE LANCET mailed to subscribers in India, Egypt, British East Africa, Aden, Persian Gulf Ports, Zanzibar, Malay States, Straits Settlements, North Borneo, Sarawak, Siam, Manila, Dutch East Indies, and Hong-Kong have gone to the bottom of the sea. On the first occasion the *Persia* was torpedoed on Dec. 30th, 1915, when she was carrying the copies for Eastern subscribers of our issue of Dec. 18th; the second occasion was that of the "mining" of the *Maloja*, when she had the issue of Feb. 26th on board. It is particularly unfortunate, so far as the latter occurrence is concerned, that the *Maloja* was carrying in addition a second supply of the issue of Dec. 18th to take the place of the copies lost in the sinking of the *Persia*. It is therefore requested that only those subscribers who bind their copies of THE LANCET will apply for the issue of Dec. 18th, as our stock of copies for this date is nearly exhausted.

H.R.H. the Duke of Connaught, Grand Prior of the Order of St. John of Jerusalem in England, has approved of the appointment of Sir William Bennett, K.C.V.O., F.R.C.S., to be surgeon-in-chief to the St. John Ambulance Brigade.

THE debate on War Injuries of the Jaws and Face, which was opened on Feb. 28th at the Odontological Section of the Royal Society of Medicine, has been adjourned until Monday next, March 6th, at 5.30 P.M.

Dr. M. Weinberg, head of the laboratory of the Pasteur Institute in Paris, will deliver a lecture on "Bacteriological and Experimental Researches on Gas Gangrene," before the Royal Society of Medicine, in the Robert Barnes Hall, on Friday next, March 10th, at 5 P.M. There will be an epidiascope demonstration.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill will publish shortly a translation by Dr. Martin H. Fischer, professor of physiology, University of Cincinnati, of Dr. Wolfgang Ostwald's "Handbook of Colloid Chemistry," which deals with the recognition of colloids, and their general physico-chemical properties.

DONATIONS AND BEQUESTS.—By the will of Isabella, Countess of Wilton, the following among other bequests are made:—£1000 each to the Hospital for Epilepsy and Paralysis, Maida Vale, W., the Fever Hospital Islington, the Royal Blind Pension Society, the Indigent Blind Visiting Society, the National Blind Relief Society, the Taunton and Somerset Hospital, and the London Hospital. The residue of the estate, about £200,000, is left to the King Edward's Hospital Fund.

HEALTH OF THE UNITED STATES ARMY IN 1914.

THE mean strength of the United States army, white and coloured troops, in 1914 was 88,133, this being a considerable increase over the corresponding figure for 1913, which was 81,697. The ratio of admission to sick report was 665·83 per 1000; the constantly non-effective rate was 24·02 per 1000. These figures compare favourably with the parallel ratios for 1913, which were 671·78 and 24·33 respectively. The death-rate was 4·45, and the ratio of discharge for disability (invaliding) was 12·78 per 1000, these figures being the lowest hitherto recorded. The bulk of the troops (61,362) were serving within the area of the United States; for these the rate of admission to hospital was 629·84, the death-rate 4·82, the proportion constantly non-effective 23·37, and the ratio of discharge for disability 14·82 per 1000. In the Philippine Islands the average strength of the garrison was 10,253; the admission-rate was 877·69, the death-rate 3·79, the number constantly non-effective 30·58, and the invaliding rate 10·62 per 1000. For the whole army the most frequent cause of death was tuberculosis, of which 41 cases were fatal, the ratio being 0·47 per 1000; pneumonia caused 15 deaths (0·17 per 1000), organic heart disease 15 deaths (0·17 per 1000), and cancer 10 deaths (0·11 per 1000). (In the British army for the quinquennium 1907 to 1911, the mortality ratio for tuberculosis was 0·26, of which 0·20 were pulmonary cases; the pneumonia mortality was 0·34, and that for organic heart disease 0·12 per 1000.) In regard to the prevalence of particular diseases detailed accounts are given of typhoid, venereal diseases, malarial fevers, and tuberculosis. Only 7 cases of typhoid occurred among officers and enlisted men stationed within the geographical limits of the United States, and four of these were recently enlisted recruits already in the prodromal stage of the disease. Two other cases were men of the hospital corps. There were 4 cases of paratyphoid (confirmed by bacteriological diagnosis), and 7 other cases, clinically paratyphoid, but not established as such bacteriologically.

Not a single case of typhoid has occurred in an inoculated man among all the troops scattered along the Mexican border and in Texas since 1912. The use of this form of prophylaxis was begun in the army in 1909 as a voluntary measure; in 1911 it was made compulsory, and now re-immunisations are carried out on enlistment in the same way as revaccination against small-pox. In 1912 the admission ratio for typhoid was 0·31 per 1000; in 1913 it was only 0·04; and in 1914, 0·07. Special measures for protection against venereal diseases were begun five years ago. In 1912 the admission ratio for these affections was 115·7; in 1913 it fell to 85·8: a slight increase, to 89·8 per 1000, occurred in 1914. In some stations it appeared that a considerable time elapsed between exposure to infection and the use of the prophylactic treatment that is officially ordered to be carried out. The report states that:—

> The matter appears to be principally a question of discipline, and it may be now stated that venereal disease in a command is an index of the discipline of that command. ..... The idea must permeate the military body that venereal disease is avoidable, a serious menace to health, a mark of inefficiency, and a slur upon soldierly conduct. ..... A marked reduction of non-effectiveness, often greater than that produced by the next three or four most prevalent diseases combined, can only be expected to follow earnest and continued educational measures resulting in a change of attitude regarding these diseases by the Army.

This is plain speaking, and should produce a good effect. Similar direct enunciation of fact and unhesitating recommendation as to the right line of action to be taken might be of advantage in other armies.

The malarial admission-rate in the United States was 10·79 per 1000, lower than in any previous year except 1913, when it was 8·79; the non-effective rate was 0·24 per 1000, also lower than in any previous year except 1913, when it was 0·18. No deaths resulted from this disease. The highest ratio was at the barracks at Washington (District of Columbia). Here the admissions were 73·1 per 1000, and in the neighbouring Fort Myer barracks the prevalence, though less (28·49), was still second in order of all the military posts in the United States. This position in the American capital is not explained. Tuberculosis caused only 2·69 admissions per 1000 in the United States, a lower figure than in any previous year. In the Philippines the ratio was 7·31, a higher figure than any previously recorded for that station. The prevalence of alcoholism has shown a steady diminution since 1907, and for the year 1914 the admission ratio of 13·46 was lower than for any year since 1870. The whole country is generally getting opposed to alcohol as a beverage, but the marked decrease in army alcoholism is believed to be largely due to the Act of Congress by which the pay, both of officers and men, was ordered to be stopped if they were incapacitated for duty on account of sickness due to drug addiction, alcoholism, or other misconduct. Only 7 cases of small-pox occurred, with 1 death. Recent orders as to revaccination will, it is hoped, increase the protection hitherto afforded. Of cerebro-spinal meningitis only 14 cases (5 fatal) were recorded during 1914 in the army in the United States; in 1913 there had been 32 cases with 11 deaths.

Alaska is the healthiest region in which the army is stationed. The admission-rate to hospital was 408·1, and the death-rate 8·74 per 1000. The chief cause for admission to hospital was tonsillitis (30·6 per 1000), and after this influenza (24·0 per 1000). In the Philippines the admission-rate for white troops was 900 per 1000, and the death-rate 3·64 per 1000. The chief diseases were venereal affections, diarrhœa, malarial fever, dengue, dysentery, and alcoholism. In the Panama Canal zone the admission- and death-rates were 938·3 and 3·21 per 1000 respectively; the chief diseases were malarial fevers and venereal. A force of 1091 troops served in China; their admission- and death-rates were 1063·2 and 5·50 per 1000. Venereal diseases and affections of the digestive system caused most of the admissions.

An Expeditionary Force of 2402 of all ranks was despatched to Vera Cruz, Mexico, in April, 1914: malaria prevailed (158 cases, due to the æstivo-autumnal plasmodium) and dysentery; also there were 359·7 per 1000 admissions for venereal disease. Special attention was paid to sanitation at Vera Cruz, the municipal affairs of the city being taken over by the military, and its sanitation being carried out by the army medical officers with very good results.

This report is clearly arranged and admirably printed, and deals with many matters of interest.

CENTRAL COUNCIL FOR DISTRICT NURSING IN LONDON.

FIRST ANNUAL REPORT.

THE Executive Committee of the Central Council for District Nursing in London presented its first annual report to the council on Feb. 25th. In THE LANCET of July 24th, 1915, we described the circumstances which led to the formation of this council and summarised a report presented at that time on district nursing in relation to measles, German measles, and whooping-cough. A practical scheme was then foreshadowed and the principal work of the committee has been the working out of this scheme which is now published as a separate leaflet.[1]

Scheme for the Nursing of Measles and Whooping-cough.

The object of this scheme is to secure the provision of timely nursing care—in proper relation to medical advice—with a view to saving the lives and preventing permanent injury to the health of young children attacked by measles or whooping-cough. It is generally agreed that if due care were taken from the onset, the mortality of measles and its complications would be greatly reduced. It is important therefore that such care should be secured with the least possible delay. It often occurs that medical aid is only summoned after the illness has developed a serious character or complications have arisen which might have been avoided by proper care and attention. It is hoped that, on the advice of an experienced nurse, such timely aid will be brought to the patient and not be deferred until it is too late.

The leaflet then goes on to call attention to the sources whence the sanitary authorities may derive information regarding occurrence of these diseases in their districts, including notification, compulsory or voluntary, by parents or medical attendants; information received from school authorities; other information from Poor-law authorities, registrars of deaths, district nurses, visitors, and clergy. Notification or information from any source would presumably lead to action directed to the benefit of the patient or the welfare of the community. Nursing assistance is first considered, and the leaflet states that there can be little doubt that the most economical and efficient arrangement under existing circumstances is for a borough council to contract with a district nursing association for this purpose. The conditions of such a contract are then discussed. While the committee considers that, granted suitable training and special instruction, the district nurse, acting as she does under rule and supervision, may safely be trusted to undertake the nursing of measles in the ordinary course, she is advised in no circumstances to assume any responsibility for medical treatment. A short statement of indications for the guidance of a nurse in regard to measles has been drawn up by Dr. F. F. Caiger as follows:—

Indications for Guidance of the Nurse in Reporting on Cases of Measles.

The following are indications to which a nurse should have special regard in reporting on a case of measles to the medical practitioner in attendance or to the medical officer of health if there be no practitioner in attendance:—

A patient's condition may be serious owing to either—

(1) The severity of the attack itself, or

(2) The development of some complication (most often bronchitis or broncho-pneumonia).

1. *Symptoms denoting severity of attack.*—(*a*) Very high temperature, 104° or more. (*b*) Persistence of a temperature of 101° to 103° after the rash has been out for three days. (*c*) A petechial or hæmorrhagic rash, with perhaps purpuric spots on the skin. (*d*) An ill-developed rash with much prostration. (*e*) A pulse-rate of over 120 in a child of five, or 140 in a child of two or three years old.

2. *Symptoms denoting some complication.*—(*a*) Bronchitis or broncho-pneumonia. Rapid respiration (50–60 per minute), nostrils working with inspiration, frequent cough, fretfulness, duskiness of lips and extremities, and a temperature of 101°–103° or higher. (Note.—Occasionally in severe broncho-pneumonia the temperature is normal, but the rapid respiration (60 or more) and dusky lips, coupled with listlessness and prostration, denote the serious condition of the patient.) (*b*) Otitis media. Earache and tenderness on pressure over the ear canal, with rise of temperature and the absence of any discharge after the symptoms have been present for 24 hours. Also, if the temperature still keeps up after the discharge has become established. (*c*) Ophthalmia. Persistent intolerance of light, with swelling of the lids, watering of the eyes, and discharge of mucoid or purulent character. (*d*) Diarrhœa. Especially if profuse, and the stools contain much mucus in spite of careful dieting.

Apart from the above symptoms, any attack of measles in a child under five years of age should always be regarded as serious.

[1] Outlines of a Scheme for the District Nursing of Measles, German Measles, and Whooping-cough in London. London: P. S. King and Son. 1916. Price 2*d*.

This statement and the list of rules to be observed when nursing cases should be of the greatest assistance to the district nurse and indirectly to the medical man at the present time. These rules appeared in the July report and are as follows:—

Rules to be observed when Nursing Cases of Measles, German Measles, and Whooping-cough.

In these diseases the infection is conveyed by the breath and by the mucous secretions and discharges from the patient's mouth and nose. Great care must therefore be taken as to the disposal of everything contaminated with them.

A separate apron or linen overall must be worn when attending a case of infectious disease. This should be kept at the patient's home, and put on by the nurse immediately on entering the room, the sleeves of her uniform, when not detachable, having previously been turned up.

When possible, any feeding vessel, cup, spoon, or fork used by the patient should be kept for his own separate use. If this is impracticable, the article should be boiled after use by the patient.

All pieces of lint, rag or cotton-wool used as swabs for wiping up, or receiving discharges from the mouth, nose, eyes, or ears must either be at once burned or placed in a dressing-tray, or on a piece of paper, until its destruction can be effected. Damp swabs are preferable to dry, and should be wrung out of a disinfectant solution. Pocket handkerchiefs, if used at all, must be boiled or steeped in a disinfectant solution before being washed.

As far as practicable avoid bringing into close proximity to the patient any articles in your equipment not actually required.

The overall, after being taken off, should be so folded as to avoid exposure of the inside lining and hung up in the room at some distance from the patient. The nurse should then thoroughly wash her hands with soap and water to which some of the disinfectant has been previously added.

By the conscientious observance of the foregoing details, and of the principles underlying them, a nurse can reduce to a minimum the risk of conveying infection to her other patients.

The supply of medical comforts and food is then dealt with, and finally the question of the provision of hospital treatment. Whilst this would generally be a matter for the public authorities, it is suggested that there might be boroughs in which (in normal times) the most stricken of the little sufferers should be tended in houses provided by voluntary effort under the care of the district nurses.

Effect of the War on District Nursing.

The committee is convinced that in normal times there would have been no difficulty in obtaining funds to meet the extra cost of the measles scheme on the nursing associations undertaking it, and that money could scarcely be better expended than in such a cause. The state of public affairs precludes it from making any appeal at the present time beyond the publication of its report. Regarding the effect of the war on the work of the associations in general, the Ranyard nurses report that since the outbreak of war roughly 20 per cent. of the nurses have left the staff to take up special duties in connexion with the war. In addition to this, one of the superintending sisters is matron of a base hospital in the Mediterranean. All vacancies have been filled by temporary nurses, and it has not been easy to bring this about. The nurses have willingly taken extra duty, feeling that this was their war work at home. The effect of the war has been interesting in rather unexpected ways. The work has tended to increase in some cases owing to: (*a*) The fact of several of the metropolitan Poor-law infirmaries being closed, and a large number of the infirm patients returning to the districts and becoming the patients of the nurses. Others who would have gone to the infirmary remain at home to be nursed. (*b*) The doctors being very pressed have been compelled to leave a great deal of work to the nurses, and several reports state that more important surgical dressings have been left to the nurses than previously. On the other hand, an unexpected decrease of work has occurred in certain areas. This is attributed to: (*a*) The fact of many doctors who formerly used the nurses being away on war service. (*b*) The better conditions under which the people are living owing to financial prosperity and abundance of work. On the whole, therefore, the amount of work has not differed greatly from other years, though it has varied somewhat in character.

Other institutions report in the same strain. The Queen Victoria's Jubilee Institute says: "The unanimous experience is that there has been no marked difference in the demand for the services of the nurses, but a diminution of ordinary acute cases is reported." The North London Nursing Association reports: "On the whole the work has decreased, there being less illness among the poor owing to the good conditions of employment."

The financial report of the council is a remarkable one. By the aid of the voluntary work which has been available it has been possible to restrict expenditure to the bare cost

of printing, and this item, amounting to £26 and a cheque book, 8s. 4d., are the sole entries on the expenditure side of the account except the distribution of £1000 from the London Parochial Charities among the various nursing associations. The expense of printing a directory of district nursing in London for the help of medical practitioners, hospital authorities, and public officials is also contemplated.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Staff-Surgeons have been promoted to the rank of Fleet-Surgeon:—R. W. G. Stewart, W. P. Walker, J. G. Wallis, H. R. H. Denny, J. R. Muir, J. O'Hea, J. St. J. Murphy, A. J. Hewitt, L. S. Whitwam, G. M. Eastment, W. P. Dyer, T. H. Vickers, and R. R. Horley.

Temporary Surgeons:—C. Banes, O. H. Gotch, and P. C. Wollatt have been appointed to the *Victory*, additional, for Haslar Hospital.

ARMY MEDICAL SERVICE.

Surgeon-General J. G. MacNeece and Colonel Sinclair Westcott, C.B., C.M.G., are retained on the Active List, and to be supernumerary.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Majors (temporary Lieutenant-Colonels) relinquish their temporary rank on re-posting:—C. R. L. Ronayne, F. P. Lauder, and Surgeon-Major W. S. Henderson, King Edward's Horse (The King's Oversea Dominions Regiment).

Lieutenant-Colonel T. B. Winter is retained on the Active List, and to be supernumerary.

Major C. H. Straton to be temporary Lieutenant-Colonel whilst an Assistant Director of Medical Services at headquarters of an Army.

The undermentioned Majors to be temporary Lieutenant-Colonels whilst in command of Field Ambulances:—P. A. Lloyd-Jones, D.S.O., W. G. Maydon, A. M. Rose, W. C. Nimmo, A. S. Arthur, T. S. Dudding, R. C. Hallowes, and F. C. Sampson, D.S.O.

Major D. S. MacKay, C.A.M.C., from 27th Canadian Infantry Battalion, and A. W. May and T. H. MacDonald, C.A.M.C., to be temporary Majors.

The undermentioned Captains to be temporary Majors while in command of Field Ambulances:—W. K. Beaman and H. M. J. Perry.

The undermentioned temporary Lieutenants to be temporary Captains:—J. R. McGilvray, K. D. C. Macrae, J. H. V. Scott, E. S. Hawthorne, S. Rowland, J. A. Montgomery, R. M. Boyd, F. P. Fisher, H. B. Atlee, G. H. Steven, W. N. Rishworth, T. R. Trounce, J. A. G. Burton, J. W. Bingham, F. J. Henry, N. Duggan, A. H. Jacob, H. B. Smith, T. P. Herriot, F. E. Sprawson, C. G. G. Keane, A. Leach, F. P. Evers, A. L. Taylor, W. Campbell, L. U. Geraty, G. Leggat, C. R. Dudgeon, F. H. Woods, L. McI. Weeks, J. Macintyre, H. E. A. Boldero, C. S. L. Roberts, H. A. Gillespie, H. C. Duffy, L. R. Broster, J. P. Fitzpatrick, E. S. Marshall, J. I. P. Wilson, H. G. Frean, F. A. Mills, W. T. Collier, J. T. Smeall, J. J. Dunne, H. A. Rowell, I. S. James, E. B. Gunson, R. D. Fitzgerald, A. S. Fry, H. D. Duke, J. H. Wrightson, H. J. Milligan, W. R. G. Hamilton, D. C. Alexander, H. Ackroyd, S. G. Tippett, A. R. Chavasse, G. W. Davis, G. Muir, D. A. D. Kennedy, W. H. Butler, J. P. Walker, M. M. Townsend, and G. D. Shann.

The undermentioned to be temporary Captains:—R. H. J. Swan, J. S. Ross, and R. H. Thomas, C.A.M.C.

The undermentioned temporary Honorary Lieutenants to be temporary Lieutenants:—G. C. Berg, C. H. C. Byrne, G. Cranstoun, H. Gardiner-Hill, and P. Hudson.

The undermentioned to be temporary Lieutenants:—H. M. Wilson, R. H. Bridge, F. M. Davies, J. L. Cochrane, R. C. Harkness, J. A. Matson, J. E. Mullan, G. Jackson, J. A. Fretton, E. W. N. Hobbouse, J. G. Slade, G. P. Sheehan, J. W. E. Cole, D. J. O'Brien, E. M. Balthasar, W. W. Halsted, G. E. Anderson, H. R. Davies, H. N. Rankin, G. R. E. Colquhoun, T. F. Moran, W. S. McGowan, J. P. Douglas, D. H. Foley, L. F. West, F. J. MacManus, T. W. Ruttledge, P. G. Leeman, F. H. McCaughey, C. H. Seville, C. H. G. Philp, R. N. Hartley, G. F. C. Healy, W. G. Jones, J. K. Garner, H. V. A. Gatchell, H. G. Carlisle, H. T. Finlayson, J. Williamson, S. Potter, G. Macdonald, E. W. G. Young, T. T. O'Callaghan, J. S. Crawford, J. W. Littlejohn, C. E. Sharp, E. Slack, H. Bouchier-Hayes, J. M. O'Reilly, H. McW. Daniel, A. P. Hart, D. M. Hunt, J. Penman, A. N. W. Colahan, H. Stobie, W. O. Roberts, G. S. Robinson, R. Nichol, J. E. Cable, J. E. S. Sheppard-Jones, G. Heathcote, E. H. Wood, H. P. Caithness, A. S. Burgess, W. A. Muir, G. C. Robinson, J. Colgan, A. G. East, A. H. B. Kirkman, W. J. Macdonald, M. W. Loy, J. Dunlop, C. S. Read, C. R. Wright, W. H. Hart, and D. S. Steele-Perkins.

The undermentioned are granted temporary honorary rank whilst serving with the Scottish Red Cross Society:—Captains: C. McNeil and D. Cotterill. Lieutenants: H. T. Thomson and D. H. D. Cran.

The undermentioned to be temporary Honorary Lieutenants: T. B. Johnston, V. C. James, R. H. Fleming, H. A. Whyte-Venables, P. A. Dargan, L. W. Jones, and A. W. Holmes, C.A.M.C.

The undermentioned temporary Lieutenants relinquish their commissions:—C. Birch, F. S. Scott, L. T. Eden, W. C. G. Ashdowne, E. B. C. Mayrs, B. Barnett, A. Jamieson, T. B. McKee, T. H. Brown, W. E. Dean, and P. O'C. White.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Temporary Lieutenant I. F. Mackenzie, from the R.A.M.C., to be Lieutenant.

TERRITORIAL FORCE.

Army Medical Services.

Lieutenant-Colonel J. Young, South Midland Field Ambulance, to be Assistant Director of Medical Services, South Midland Division, with the temporary rank of Colonel, vice Colonel W. H. Bull.

Major W. F. McAllister-Hewlings, from Attached to Units other than Medical Units, to be Deputy Assistant Director of Medical Services, North Midland Division.

Royal Army Medical Corps.

South-Western Mounted Brigade Field Ambulance: Lieutenants to be Captains: H. R. Dive and C. D. Relton.

East Anglian Field Ambulance: Lieutenant A. Greene to be Captain. Lieutenant W. K. Legassick is seconded for duty with the Queen's Own (Royal West Kent Regiment).

Lowland Field Ambulance: Captain R. B. Barnetson relinquishes his commission.

Western General Hospital: Lieutenant J. Lloyd to be Captain.

Southern General Hospital: Captain G. S. Earl relinquishes his commission on account of ill-health.

London (City of London) Sanitary Company: W. C. Lyons to be Lieutenant.

South Midland Field Ambulance: Lieutenant-Colonel J. Young is seconded whilst holding an appointment as Assistant Director of Medical Services.

Scottish General Hospital: Lieutenant J. W. Simpson to be Captain.

Wessex Divisional Sanitary Section: Lieutenant A. E. Bonham to be Captain.

South Wales Mounted Brigade Field Ambulance: Lieutenant N. T. K. Jordan to be Captain.

London (City of London) Field Ambulance: Captain H. K. Griffith, from Attached to Units other than Medical Units, to be Captain.

Attached to Units other than Medical Units.—Lieutenants to be Captains: H. L. Gauntlett, F. R. Fletcher, and H. W. Godfrey.

DEATHS IN THE SERVICES.

Deputy Surgeon-General Eugene Francis O'Leary, A.M.S., at Audley, Sidmouth, on Feb. 20th, in his eighty-first year. He entered the army in 1856 and served in India and China and in the Egyptian campaign of 1882 (medal and the Khedive's Star). He retired in 1883.

Surgeon-General Charles Edwin McVittie, I.M.S. (retired), H.P.K., at Exmouth recently. He served in the Afghan War in 1880 (medal) and with the Burmese Expedition in 1886–87 (mentioned in despatches and medal with two clasps). He reached the rank of surgeon-general in 1895 and retired in 1900, receiving a distinguished service reward four years later.

PROMOTIONS IN THE INDIAN ARMY.

Officers of the Indian Medical Service have recently had some reason for complaint owing to supersession by their juniors on account of the greater rapidity of promotion in the British army. This has now been remedied by recent measures sanctioned by the Secretary of State for India granting temporary promotions irrespective of the occurrence of vacancies in the next higher rank.

BELFAST HEALTH SOCIETY.—Sir John Byers, speaking at the recent annual meeting of the Belfast Health Society, alluded to the good work done in the babies' clubs in which there had been 924 new entries during 1915. To get rid of prematurity means must be taken, he said, to raise the health of the mothers by such agencies as rest, good food, and quiet surroundings. Many healthy children, born at full term, perished from want of knowledge or indifference on the part of the parents. Instruction must be given that no other method of bringing up a child was to be compared to breast-feeding. Valuable help, he said, was being given by the sale of infants' outfits at cost price.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 7047 births and 5449 deaths were registered during the week ended Saturday, Feb. 26th. The annual rate of mortality in these towns, which had increased from 14·0 to 16·3 per 1000 in the four preceding weeks, fell in the week under notice to 15·7 per 1000 of their aggregate population, estimated at 18,136,180 persons at the middle of the year 1914. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 14·8, against a corresponding rate of 14·0 per 1000 in London. The death-rate last week ranged from 6·6 in Ealing, 6·9 in Swindon, 7·0 in Walthamstow, 7·2 in Gloucester, and 7·5 in East Ham, to 22·4 in York, 22·5 in Ipswich, 23·1 in Dewsbury, 23·8 in Liverpool, and 24·5 in Grimsby.

The 5449 deaths from all causes were 236 below the number recorded in the previous week, and included 351 which were referred to the principal epidemic diseases, against numbers increasing from 305 to 377 in the five preceding weeks. Of these 351 deaths, 116 resulted from whooping-cough, 98 from measles, 57 from infantile diarrhœal diseases, 56 from diphtheria, 14 from scarlet fever, 9 from enteric fever, and 1 from small-pox. The annual death-rate from these diseases was equal to 1·0, against 1·1 per 1000 in the previous week. The deaths attributed to whooping-cough, which had steadily increased from 74 to 133 in the five preceding weeks, fell to 116, and included 28 in London, 13 in Liverpool, 7 each in Birmingham and Manchester, 6 in Sheffield, and 5 in Coventry. The deaths referred to measles, which had been 62, 63, and 78 in the three preceding weeks, further rose to 98, and caused the highest annual death-rates of 1·6 in Leeds, 1·7 in Darlington and in Rochdale, 2·0 in Leicester, 2·5 in Stockport, and 2·7 in Grimsby. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 70, 64, and 73 in the three preceding weeks, fell to 57, of which 12 were recorded in London, 7 in Liverpool, and 3 each in Birmingham and Bristol. The fatal cases of diphtheria, which had been 63, 71, and 61 in the three preceding weeks, further fell to 56; 11 deaths were registered in London, 6 in Stoke-on-Trent, and 3 each in Coventry and Liverpool. The deaths attributed to scarlet fever, which had been 28, 18, and 25 in the three preceding weeks, fell to 14, and included 5 in London and 3 in Leeds. The 9 fatal cases of enteric fever, of which 2 occurred in Newcastle-on-Tyne, were equal to the average in the earlier weeks of the quarter. The death from small-pox occurred in Cardiff.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had declined from 2257 to 2059 in the five preceding weeks, further fell to 1989 on Saturday last; 194 new cases were admitted during the week, against 253, 196, and 215 in the three preceding weeks. These hospitals also contained on Saturday last 1553 cases of diphtheria, 196 of whooping-cough, 69 of measles, and 51 of enteric fever, but not one of small-pox. The 1263 deaths from all causes in London were 55 fewer than the number in the previous week, and corresponded to an annual death-rate of 14·6 per 1000. The deaths referred to diseases of the respiratory system, which had been 224, 225, and 282 in the three preceding weeks, rose to 284 in the week under notice, but were 192 below the number registered in the corresponding week of last year.

Of the 5449 deaths from all causes in the 96 towns, 175 resulted from violence and 404 were the subject of coroners' inquests, while 1525 occurred in public institutions. The causes of 62, or 1·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, West Ham, Bradford, Newcastle-on-Tyne, and in 67 other smaller towns. Of the 62 uncertified causes, 16 were registered in Birmingham, 15 in Liverpool, 4 in Manchester, 3 in Stoke-on-Trent, and 2 each in St. Helens, Preston, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,355,300 persons at the middle of this year, 1054 births and 732 deaths were registered during the week ended Saturday, Feb. 26th. The annual rate of mortality in these towns, which had been 13·4, 16·3, and 15·5 per 1000 in the three preceding weeks, rose to 16·2 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 15·2, against a corresponding rate of 14·8 per 1000 in the large English towns. The death-rate last week ranged from 9·8 in Kilmarnock, 12·4 in Ayr, and 12·7 in Kirkcaldy, to 21·1 in Dundee, 24·4 in Perth, and 32·9 in Greenock.

The 732 deaths from all causes were 32 in excess of the number in the previous week, and included 63 which were referred to the principal epidemic diseases, against 71 and 69 in the two preceding weeks. Of these 63 deaths, 28 resulted from measles, 15 from scarlet fever, 8 each from diphtheria and infantile diarrhœal diseases, and 2 each from enteric fever and whooping-cough, but not one from small-pox. The annual death-rate from these diseases was equal to 1·4, compared with 1·0 per 1000 in the large English towns. The deaths attributed to measles, which had been 22, 32, and 34 in the three preceding weeks, fell to 28, and included 11 in Glasgow, 7 in Coatbridge, 5 in Greenock, and 3 in Paisley. The deaths referred to scarlet fever, which had been 7, 11, and 11 in the three preceding weeks, further rose to 15, of which 9 belonged to Glasgow and 2 each to Edinburgh and Motherwell. The fatal cases of diphtheria, which had been 14, 18, and 15 in the three preceding weeks, fell to 8, and included 2 each in Edinburgh and Aberdeen. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 6, 3, and 6 in the three preceding weeks, rose to 8, of which 3 were registered in Glasgow and 2 in Edinburgh. The 2 fatal cases of whooping-cough were recorded in Glasgow, and those from enteric fever in Glasgow and Clydebank.

The deaths referred to diseases of the respiratory system, which had been 73, 96, and 88 in the three preceding weeks, rose to 126 in the week under notice, but were 109 below the number registered in the corresponding week of last year. The deaths from violence numbered 30, against 34 and 35 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 19 town districts of Ireland, with populations exceeding 10,000 persons at the last Census, 525 births and 414 deaths were registered during the week ended Saturday, Feb. 19th. The annual rate of mortality in these towns, which had been 17·6, 19·0, and 20·2 per 1000 in the three preceding weeks, fell in the week under notice to 18·8 per 1000 of their aggregate population estimated at 1,148,468 persons at the middle of last year. During the first seven weeks of the current quarter the mean annual death-rate in these towns averaged 18·8, against corresponding rates of 14·7 and 15·1 per 1000 in the English and Scotch towns respectively. The death-rate during the week was equal to 18·2 in Dublin (against 15·2 in London and 15·8 in Glasgow), 18·1 in Belfast, 23·1 in Cork, 26·6 in Londonderry, 21·7 in Limerick, and 11·4 in Waterford, while in the 13 smaller towns the mean rate was 18·4 per 1000.

The 414 deaths from all causes were 30 fewer than the number in the previous week, and included 30 which were referred to the principal epidemic diseases, against 30 and 34 in the two preceding weeks. Of these 30 deaths, 11 resulted from whooping-cough, 9 from measles, 5 from infantile diarrhœal diseases, 2 each from enteric fever and scarlet fever, and 1 from diphtheria, but not one from small-pox. The annual death-rate from these diseases was equal to 1·4, against corresponding rates of 1·1 and 1·5 per 1000 in the English and Scotch towns respectively. The deaths attributed to whooping-cough, which had been 7, 11, and 12 in the three preceding weeks, numbered 11 during the week, and included 3 each in Dublin and Belfast, and 2 in Ballymena. The deaths referred to measles, which had been 6, 5, and 10 in the three preceding weeks, were 9, and comprised 4 each in Dublin and Belfast, and 1 in Newry. The fatal cases of diarrhœa and enteritis (among infants under 2 years) which had been 8, 8, and 4 in the three preceding weeks, were 5, and included 2 each in Dublin and Waterford. The 2 deaths from enteric fever were registered in Belfast, and those from scarlet fever in Belfast and Cork, and the fatal case of diphtheria in Belfast.

The deaths referred to diseases of the respiratory system, which had been 63, 76, and 83 in the three preceding weeks, fell to 68 in the week under notice, and were 97 below the number registered in the corresponding week of last year. Of the 414 deaths from all causes, 137, or 33 per cent., occurred in public institutions, and 7 resulted from violence. The causes of 22, or 5·3 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Dublin and 3 each in Belfast, Cork, Londonderry, and Limerick; in the large English towns the proportion of uncertified causes did not exceed 1·1 per cent.

VITAL STATISTICS OF LONDON DURING JANUARY, 1916.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the 10 diseases specified in the table was equal to an annual rate of 6·5 per 1000 of the population, estimated at 4,516,612 persons; in the three preceding months the rates were 9·6, 7·8, and 6·3 per 1000 respectively. The lowest rates were recorded in Kensington, Chelsea,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1916.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1914.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON	4,516,612	—	1032	830	—	37	—	22	281	35	7	2244	6·5	—	38	20	71	62	7	66	264	0·8	4675	13·5
West Districts.																								
Paddington	142,055	—	31	17	—	1	—	1	16	3	—	69	6·3	—	1	1	—	2	1	3	8	0·7	134	12·2
Kensington	170,817	—	28	16	—	2	—	—	5	2	—	53	4·0	—	—	—	2	—	1	3	6	0·5	146	11·1
Hammersmith	124,750	—	29	15	—	—	—	—	8	—	—	52	5·4	—	1	1	1	1	—	5	9	0·9	124	12·8
Fulham	158,849	—	39	32	—	1	—	2	6	—	—	80	6·6	—	—	3	2	1	—	1	7	0·6	155	13·1
Chelsea	63,791	—	6	9	—	—	—	—	4	—	—	19	3·9	—	—	—	1	3	—	1	5	1·0	60	11·7
City of Westminster	152,346	—	26	11	—	—	—	—	7	1	—	45	3·9	—	—	—	—	—	—	2	2	0·2	140	12·6
North Districts.																								
St. Marylebone	112,892	—	11	10	—	2	—	—	5	2	—	30	3·5	—	—	—	—	2	—	3	5	0·6	113	13·4
Hampstead	86,731	—	18	7	—	1	—	—	5	—	—	31	4·7	—	—	—	—	—	—	1	1	0·2	70	11·1
St. Pancras	212,497	—	64	42	—	—	—	2	7	1	—	116	7·1	—	—	1	2	5	—	—	8	0·5	224	13·7
Islington	324,764	—	68	57	—	3	—	3	12	2	1	146	5·9	—	4	2	5	4	—	2	17	0·7	398	15·6
Stoke Newington	50,454	—	10	12	—	—	—	—	4	—	—	26	6·7	—	—	—	1	—	—	—	1	0·3	46	11·3
Hackney	223,724	—	57	29	—	2	—	—	8	4	—	100	5·8	—	1	1	4	2	—	2	10	0·6	228	13·4
Central Districts.																								
Holborn	45,861	—	18	6	—	—	—	—	2	—	2	28	8·0	—	—	1	—	—	—	—	1	0·3	46	13·1
Finsbury	83,212	—	31	10	—	2	—	—	6	2	—	51	8·0	—	14	—	1	1	—	—	16	2·5	98	15·2
City of London	17,129	—	2	3	—	—	—	—	1	—	—	6	4·6	—	—	—	—	—	—	—	—	—	13	10·3
East Districts.																								
Shoreditch	108,869	—	30	27	—	2	—	—	10	—	1	70	8·4	—	2	1	4	3	—	7	17	2·0	161	19·9
Bethnal Green	127,662	—	47	30	—	1	—	2	12	3	—	95	9·7	—	—	—	4	2	—	6	12	1·2	160	16·9
Stepney	273,265	—	67	95	—	3	—	—	27	5	—	197	9·4	—	4	1	9	10	—	10	34	1·6	285	14·2
Poplar	160,222	—	32	28	—	4	—	—	20	1	1	86	7·0	—	—	1	—	6	1	2	10	0·8	190	15·3
South Districts.																								
Southwark	186,941	—	22	38	—	—	—	3	18	—	—	81	5·6	—	4	—	7	4	—	1	16	1·1	228	16·0
Bermondsey	124,213	—	20	40	—	1	—	—	17	1	—	79	8·3	—	1	2	2	2	—	—	7	0·7	153	16·1
Lambeth	298,724	—	41	34	—	3	—	4	8	—	—	90	4·0	—	—	1	6	2	—	7	16	0·7	300	12·9
Battersea	167,338	—	70	50	—	1	—	1	11	3	—	136	10·6	—	1	—	6	—	—	1	8	0·6	197	15·4
Wandsworth	338,998	—	87	80	—	4	—	2	12	3	2	190	7·3	—	2	—	8	3	1	2	16	0·6	288	11·1
Camberwell	262,020	—	56	39	—	1	—	—	21	1	—	118	5·9	—	1	3	2	—	—	1	7	0·3	231	11·4
Deptford	109,182	—	39	20	—	—	—	1	10	—	—	70	8·4	—	2	1	—	—	—	2	5	0·6	110	12·9
Greenwich	96,037	—	25	19	—	1	—	—	5	1	—	51	6·9	—	—	—	2	—	2	1	5	0·7	104	13·9
Lewisham	172,433	—	31	22	—	1	—	—	4	—	—	58	4·4	—	—	—	1	6	1	2	10	0·8	145	10·8
Woolwich	122,836	—	27	32	—	1	—	1	10	—	—	71	7·5	—	—	—	1	3	—	1	5	0·5	128	13·9
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex and age constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

the City of Westminster, St. Marylebone, and Lambeth; and the highest rates in Shoreditch, Bethnal Green, Stepney, Battersea, and Deptford. The prevalence of scarlet fever showed a slight decline from that recorded in the preceding months; among the several metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Holborn, Finsbury, Bethnal Green, Battersea, and Deptford. The Metropolitan Asylums Hospitals contained 2157 scarlet fever patients at the end of the month, against 3072, 2896, and 2431 at the end of the three preceding months; the weekly admissions averaged 249, against 434, 329, and 248 in the three preceding months. Diphtheria was rather more prevalent than it had been during December; the greatest proportional prevalence of this disease in January was recorded in Shoreditch, Bethnal Green, Stepney, Bermondsey, Battersea, Wandsworth, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1620, 1551, and 1476 at the end of the three preceding months, had risen again to 1492 at the end of the month; the weekly admissions averaged 198, against 241, 195, and 177 in the three preceding months. Enteric fever was less prevalent than in any other recent month; of the 37 cases notified during January, 4 belonged to Poplar, 4 to Wandsworth, and 3 each to Islington, Stepney, and Lambeth. There were 44 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of the month, against 49, 57, and 50 at the end of the three preceding months; the weekly admissions averaged 7, against 7 in each of the two preceding months. Erysipelas was proportionally most prevalent in Paddington, Shoreditch, Bethnal Green, Stepney, Poplar, Bermondsey, and Deptford. The 22 cases of puerperal fever notified during the month included 4 in Lambeth, 3 in Islington, 3 in Southwark, 2 in Fulham, 2 in St. Pancras, 2 in Bethnal Green, and 2 in Wandsworth. The 35 cases of cerebro-spinal meningitis included 5 in Stepney, 4 in Hackney, 3 in Paddington, 3 in Bethnal Green, 3 in Battersea, and 3 in Wandsworth; and of the 7 cases notified as poliomyelitis, 2 belonged to Holborn and 2 to Wandsworth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex and age constitutions of the populations of the several boroughs. During the four weeks ending Jan. 29th the deaths of 4675 London residents were registered, equal to an annual death-rate of 13·5 per 1000; in the three preceding months the rates had been 14·6, 16·2, and 17·3 per 1000 respectively. The death-rates in January ranged from 10·3 in the City of London, 10·8 in Lewisham, 11·1 in Kensington, in Hampstead, and in Wandsworth, 11·3 in Stoke Newington, and 11·4 in Camberwell, to 15·4 in Battersea, 15·6 in Islington, 16·0 in Southwark, 16·1 in Bermondsey, 16·9 in Bethnal Green, and 19·9 in Shoreditch. The 4675 deaths from all causes included 264 which were referred to the principal infectious diseases; of these, 38 resulted from measles, 20 from scarlet fever, 71 from diphtheria, 62 from whooping-cough, 7 from enteric fever, and 66 from diarrhœa and enteritis among children under 2 years of age. The 38 deaths from measles showed a decline of 128 from the corrected average number in the corresponding weeks of the five preceding years, and included 14 in Finsbury, 4 in Islington, 4 in Stepney, 4 in Southwark, 2 in Shoreditch, 2 in Wandsworth, and 2 in Deptford. The 20 fatal cases of scarlet fever were slightly above the corrected average number, and included 3 in Fulham, 3 in Camberwell, 2 in Islington, and 2 in Bermondsey. The 71 deaths from diphtheria were 23 in excess of the corrected average number; this disease was proportionately most fatal in Shoreditch, Bethnal Green, Stepney, Southwark, and Battersea. The 62 fatal cases of whooping-cough were 13 below the corrected average number; the highest death-rates from this disease were recorded in Chelsea, St. Pancras, Shoreditch, Stepney, Poplar, Lewisham, and Woolwich. The 7 deaths from enteric fever were equal to one-half the corrected average number, and included 2 in Greenwich, and 1 each in Paddington, Kensington, Poplar, Wandsworth, and Lewisham. The mortality from diarrhœa and enteritis among children under 2 years of age was proportionally greatest in Fulham, St. Marylebone, Shoreditch, Bethnal Green, and Stepney. In conclusion, it may be stated that the aggregate mortality in London in January from the principal infectious diseases, excluding diarrhœa, was 38·3 per cent. below the average

PRESENTATION TO A MEDICAL MAN.—At the distribution of certificates to members of the Mount Hawke (Cornwall) Home Nursing Class, Dr. A. Forsyth was presented with a set of surgical instruments and "The Index of Treatment" in appreciation of his services as honorary lecturer.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Principalship of the University of Edinburgh.

THE appointment of successor to the late Sir William Turner, as Principal of the University of Edinburgh, lies with the Curators of Patronage. The curators are seven in number—three nominated by the University Court and four by the town council of Edinburgh. The names of the present curators are: Lord Dundas and Dr. D. F. Lowe, elected by the University Court; and the Lord Provost and Councillors Harrison, Carter, and Lorne McLeod, elected by the town council. The late Sir William Turner was the third representative of the University Court, who will, no doubt, elect a member in his place before the appointment of Principal is made. The Principal, who was formerly elected by the town council, holds office for life. He is the president of the Senatus Academicus; in the absence of the Rector he presides at the meetings of the University Court, and in the absence of the Chancellor and Rector he presides at the statutory meetings of the General Council, and also at the special meetings except for the election of assessors.

Central Midwives Board for Scotland.

The first meeting of the Central Midwives Board for Scotland, constituted under the Midwives (Scotland) Act, 1915, was held at the offices of the Local Government Board for Scotland, Edinburgh, on Feb. 18th. Professor Sir J. Halliday Croom was elected chairman, and Dr. J. Haig Ferguson deputy-chairman. Mr. D. L. Eadie has been appointed secretary.

Morning Consultation Hour Proposed for Dundee Panel Patients.

At a meeting of the Dundee National Insurance Committee held recently the question of a morning consultation hour for panel patients was discussed. The present arrangement made by the Committee with the doctors is that consultation hours shall be from 6 to 8 P.M. Before the war no exception was taken to those hours, but since all consulting work is now centred in an annexe of the Royal Infirmary, many patients have long distances to go between their homes and the consulting-rooms, often in inclement weather (formerly, of course, the doctors were consulted at their respective homes), and it was pointed out at the meeting that this was a hardship on ailing people, and that it must often increase illness and so the doctor's work. A report from the Medical Benefit Committee was presented at the meeting, which stated that the Commissioners drew attention to the fact that they had received representations from societies to the effect that the absence of a morning consultation hour for insurance service practitioners in Dundee made it difficult for them to enforce their rules for behaviour during illness, and that the present hours being from 6 to 8 P.M. insured persons who might have to be out after prohibited hours—for example, to obtain a sickness certificate—were liable to be fined. When the matter was before the Dundee Panel Committee they intimated that there was no evidence to suggest that the morning consultation hour would be advantageous, and that it would be an act of tyranny on the part of Approved Societies to fine a person who in pursuance of the benefits of the Act could be proved to have visited

the doctor during the evening. The clerk afterwards wrote to the Commissioners stating that as so many of the panel doctors were engaged on military duties they deemed it inadvisable to suggest any alteration meantime. The Commissioners replied that at present they did not mean to ask for any change in the present arrangements. Ultimately the proposal for a morning hour was agreed to by 13 votes to 10, and the matter was then remitted to the Medical Benefit Committee to arrange. As many doctors are in the habit of starting on their rounds at 9 A.M. a morning hour would curtail the time free for visiting patients in their homes, so that the proposal does not make entirely for inefficiency.

Feb. 28th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Health of an Army in War and Peace.

TERRIBLE epidemics might have been expected in the train of the colossal military operations now in progress. A very interesting inquiry upon this subject admits of the conclusion that in France fewer cases of illness are occurring in the army during the present war than had occurred in time of peace. Maladies such as scarlet fever and mumps have practically disappeared. Typhoid alone has increased in notable degree, but it gives rise to far fewer fatal results than before the war, due doubtless to improved methods of treatment. The usual mortality of typhoid in hospitals before the war was 12 per cent. It has fallen in the last quarter of 1915 to 2·6. This is indeed a victory of which the public health service may be proud. For the sum-total of infectious disease—measles, scarlet fever, mumps, typhoid, cerebro-spinal fever, diphtheria, dysentery—if a comparison be made of the figures of to-day with those of the fourth quarter of the year 1911 (the last year of which statistics have been published) it will be seen that the mortality has diminished by almost one half. In the last quarter of 1911 it was at the rate of 0·27 per cent. of effectives and it has fallen for the same period of 1915 to 0·15 per cent.

Service of Stomatology at the Front.

M. Régis has given the Paris Society of Medicine details regarding the service of stomatology which has been created at the front, thanks to the initiative of the medical staff. With a minimum of expense a number of consultations and dental operations have been arranged for. The service does not cease operations during marches owing to the rapidity with which its material can be installed. M. Butte remarked that it would be of great value to attach to each centre of venereal disease a dentist with medical qualifications to prepare the mouth of the patients and permit of the application of appropriate mercurial treatment without delay.

Colloidal Gold in Treatment.

Dr. Paul Delbet has made a complete study of colloidal gold therapy from the point of view of surgical infections. He uses the blue variety of colloidal gold containing ¼ milligramme per c.c. Colloidal gold gives rise to a marked leucocytosis and can be employed as an intravenous injection. Thus given a daily injection of 1 c.c. suffices. When the infection is not urgent a dose may be given every other day. Reaction may sometimes be violent. In one desperate case the patient expired an hour after an injection of 2 c.c. Dr. Delbet brought forward a series of 29 cases, and drew the conclusion that the injection is indicated in wounded men in whom the skull, pleural or abdominal cavity has been opened, or a limb amputated, and whose condition continues to cause anxiety, while any further surgical intervention is out of question. In a second category of cases the surgeon may be hesitating between radical or more conservative intervention. Colloidal gold may then prudently be employed concurrently with the conservative treatment. In another class of case M. Letulle and M. Mage conceived the idea of employing this therapeutic agent in typhoid whenever the rectal temperature reached or passed 38° C. They also administered a maximum of one intravenous injection per day measuring 1–1½ c.c., and containing about ¼ milligramme of colloidal gold. Their observations show that, by cold bath treatment combined with gold, a rapid crisis is constantly brought about, and this fall of temperature may be maintained to a final happy issue. M. Guinon instanced several favourable cases. Colloidal gold has to him the important advantage over colloidal silver in the treatment of infants, that 1 or 2 c.c. suffice to produce a result instead of 6 to 10 c.c. in the case of silver. In view of the structure of the veins in the child this constitutes an appreciable advantage.

Dearth of Thermometers.

At the Medical Society of the Hospitals M. Netter has called attention to the dearth of thermometers in the hospital service, which is such that it is impossible to provide a separate instrument for each patient, so that a grave risk exists of infection where contagious cases are concerned. This awkward situation is the result of the fact that before the war so many thermometers came into France from Germany. French makers have proceeded to meet the immediate need, but in order to accelerate matters the society proposes to ask the Assistance Publique to take the necessary steps.

A New Stereoscope.

M. Violle has exhibited a new stereoscope which allows of examining radiograms of war injuries in their natural relief. The instrument is a variant of the ordinary stereoscope and inverts the image, a drawback soon surmounted in practice. The wounds and the projectiles which have produced them appear in perspective just as if the flesh were transparent. The new method is said to give security and rapidity to the operating surgeon.

Feb. 28th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Antituberculosis Work in Lucknow.

IN his Annual Report for 1914 of the Civil Hospitals and Dispensaries of the United Provinces Colonel C. Mactaggart devotes a considerable section to the antituberculosis work organised by Major C. A. Sprawson in Lucknow. This work has been principally upon two lines—the Lucknow Tuberculosis Hospital and the Lucknow Antituberculosis League. The former attempts to educate as well as to treat the patients, and through them their relatives and friends; the latter endeavours to educate the people as a whole to some knowledge of the dangers of tuberculosis and the means of dealing with its spread in Lucknow. The Lucknow

Tuberculosis Hospital is at present but the nucleus of what, it is hoped, will eventually be a larger hospital for tuberculosis established in connexion with King George's Hospital. Most of the patients are out-patients, many of whom are regular attendants, while others are patients of local practitioners and are sent by them for diagnosis. Instruction is given to these patients and their friends verbally and by printed leaflets. A few in-patients are also treated; these are usually hopeless and some moribund when admitted, and although the admission of such patients naturally makes the statistics look bad, it is better for them to be in an institution than disseminating infection in dwelling houses. The Lucknow Anti-tuberculosis League was initiated in February, 1914, by Major Sprawson and launched at a public meeting in March, 1914, under the presidency of Colonel C. C. Manifold, I.M.S., Inspector-General of Civil Hospitals. It was hoped that in Lucknow the doctors would be able to teach a few educated and influential citizens the simple truths about tuberculosis, and that these laymen in their turn would carry on the instruction by magic-lantern lectures and other means. About 12 such lectures have been held throughout the year; three of them were large general gatherings, others select meetings at schools or private houses. In some cases the lectures have been for women only, as it is by educating the women that we can hope to better the home, where is usually the seat of tuberculosis. Later the establishment of similar antituberculosis leagues is planned in other towns of the United Provinces and the coördination of their work. Dr. A. C. Lankester, who is on special duty for the purpose from the Government of India, is trying to organise antituberculosis measures throughout India.

Town Planning.

A plea for a "Greater Calcutta" was put forward at an exhibition of town-planning methods at Calcutta by Professor Geddes, who is spending a short time in that city. The efforts of the Calcutta Improvement Trust were illustrated by means of plans and diagrams. The Central Avenue scheme was characterised by Professor Geddes as an honest effort to deal with an extremely difficult problem. Of other cities of the world, he thought London should offer most interest to Calcutta, which was itself a product of direct Indian and European influence, and had been largely determined by London, as London had been largely determined by Rome. Professor Geddes traced the Roman influence in the early development of London, and pointed out that Cheapside, the main shopping street of Roman days, remained a popular shopping resort to-day, and a lasting illustration of the knowledge the Romans had of town-planning. The most interesting section of the exhibition deals with the Improvement Trust's plans for an improved Calcutta.

Feb. 7th.

EXETER DISPENSARY.—The annual meeting of the subscribers of the Exeter Dispensary was held on Feb. 24th. The medical report stated that 1738 patients had been treated during the past year. The financial statement showed a deficit on the year of £400, but, fortunately for the charity, there are invested funds of about £20 000. Owing principally to the absence of the medical officers, who have accepted temporary commissions in the R.A.M.C., the committee has arranged with Dr. Mabel Gates to undertake the whole of the work of visiting the home patients, at an honorarium of 150 guineas per annum.

Correspondence.

"Audi alteram partem."

VENEREAL DISEASE IN THE ARMY.

To the Editor of THE LANCET.

SIR,—Your leading article in THE LANCET of Feb. 5th under the above heading contains an appreciative reference to the Association for Moral and Social Hygiene for which I should like to thank you. The same issue contains an annotation on the Importance of Science to the State, pointing out that the checks which we have sustained since the war began can in large part be attributed directly and indirectly to a lack of knowledge, on the part of our legislators and administrative officials, of ordinary scientific matters. Is it not possible that the checks which have so constantly been sustained in well-intentioned efforts to deal with the evils of prostitution are due to the fact that until very lately no attempt has been made to apply scientific methods to that problem?

Within the last few years a beginning of serious sociological study in this direction has been made.[1] To prosecute such a study is one of the main objects of the Association of Moral and Social Hygiene; it is, I believe, the only British organisation which has done anything in that direction. Its support of the equal moral standard, and its opposition to official regulation of vice, originally based on ethical considerations, have found full scientific justification. Surely this must be so: if the conceptions of morality conflict with scientific theory, there must be something wrong with one or the other, and it may be necessary to re-investigate the grounds of both. In this view I believe you and most of your readers are at one with our Association. When serious proposals are put forward to meet an acknowledged evil it is an ungrateful task to indulge in merely negative criticism. Yet negative criticism has its value if it prevents the waste of effort involved in following false trails.

Probably everyone will agree with you in desiring that military areas should not be frequented by "undesirable" women. The question is how that is to be attained. The proposal to deport all such women appears to us to be open to grave constitutional objections. Moreover, it bristles with practical difficulties with which I will not take up your space. Drastic measures applied to prostitutes have never yet been successful; indeed, history seems to show that the more drastic the effort the more complete has been its failure. It is well known that the amount of immorality and consequent disease has varied not only in the different training camps, but also in the same camp when occupied by different bodies of troops. Hence when disease is specially prevalent in a given area it seems reasonable to inquire whether there is anything in the special conditions or arrangements of the men which may account for it. I may say that my Association has made private representations along these lines to the military authorities.

In the present abnormal circumstances, when the ordinary civil law is in so many respects superseded, and when so large a proportion of our young men are under military law, the constitutional

[1] See Mr. A. Flexner's book on "Prostitution in Europe" and the discussion on Syphilis and the State at the International Congress of Medicine in 1913.

argument as to equal treatment of men and women might meet with scant sympathy. But these abnormal circumstances cannot interfere with the contention, abundantly supported by experience under the most diverse conditions, that the evils in question never have been and never can be subdued by measures dealing only with women. *Identical* treatment may be impossible; but if, as we affirm, *equal* treatment is scientific, it is a guiding principle to be kept in view under all circumstances, and acted on so far as is practicable.

I am, Sir, yours faithfully,

HELEN WILSON, M.D. Lond.,

Honorary Secretary, Association of Moral and Social Hygiene.

19, Tothill-street, S.W., Feb. 14th, 1916.

PROPHYLACTIC VACCINATION AGAINST HAY FEVER.

To the Editor of THE LANCET.

SIR,—I was very interested to read the paper on the above subject by Dr. B. P. Sormani in THE LANCET of Feb. 12th. With much of his advice for the prophylactic treatment of hay fever I am in considerable agreement; such treatment certainly should give fairly good results. I think, however, in many cases he must have wasted much time before he reached an effective dose. In point of fact, Dr. Sormani's methods do not differ so very much from those of other people, except that he refuses to make use of the specific eye reaction for judging his dose, though he insists that this reaction is still necessary.

Whatever may be the result in practice, the principles on which Dr. Sormani has based his modifications seem to me sufficiently erroneous to justify a letter on the subject at a time when most of your readers are thinking of, and working at, other things. He writes that he bases his prophylactic treatment against hay fever on Wright's prophylactic treatment against typhoid, saying: "In determining the first dose of 1000 million typhoid bacilli Wright probably only considered how many typhoid bacilli a normal man could stand without suffering any serious reaction." Wright, of course, did nothing of the sort. His main concern was to find a dose of typhoid bacilli which would evoke a good immunisation response in the patient. It was precisely the same object which Noon, and afterwards the present writer, had in view when we were looking for the optimum prophylactic dose for hay fever people.

I think that Dr. Sormani is misled in another respect by this analogy of typhoid inoculation. A hundred men awaiting a prophylactic dose of typhoid have not got typhoid fever, and probably never have had it. But a hundred men awaiting prophylactic inoculation against hay fever have all of them had hay fever, and would be having it at that moment but for the solitary fact that the appropriate pollen is not in the atmosphere. As far as their bodies are concerned, they have all the factors present necessary for hay fever, and, like any other collection of patients suffering from a set of disabilities, they differ almost infinitely in the extent of their disabilities. Therefore I still think it wise to suit the dose of vaccine to the degree of susceptibility to the disease rather than to fix the first dose on the assumption that they all of them would be the most severe cases possible, and then to cautiously increase from such a dose. In the hay fever out-patient clinic at St. Mary's Hospital, and with our private patients, we have been in the habit of giving rather less than the optimum dose as judged by the ophthalmo-reaction, and then have cautiously increased the dose, as Dr. Sormani does.

He also says a good deal in his paper about the swelling at the site of the inoculation, and urticaria which may occur immediately after the injections, and suggests that this may be some form of anaphylaxy. I think it has nothing to do either with hay fever or anaphylaxy. If it occurs at all it does so after the first inoculation, and is always less, or absent, after the second inoculation, and I think can always be controlled by lactate of calcium.

There is one other point where I am sure Dr. Sormani is wrong. He says that it is a "well-known fact" that the pollen toxin soon loses its antigen power; as far as one can judge it does nothing of the kind. It certainly retains its power of producing the hay fever symptoms for a very considerable period. For example, extracts made by Noon in 1910 still worked well in 1912; and as I have just tested, are potent to this day, though not quite so strong as they used to be. If the toxin has changed but little as a toxin, there is no reason to suppose that it will fail to act as an antigen, and produce the antitoxin. At any rate I am sure there is no real reason for making up a fresh vaccine for each inoculation, as he suggests.

I should much like to know the strength of the extract made by Dr. Sormani by grinding with sand. Extracts which we have made in a similar fashion have been very weak. Perhaps this accounts for the fact that he gives such big doses as 1000 units, for we should regard 500 units as a big dose.

Dr. Sormani says that I begin treatment in October; as a matter of fact, I advise treatment as early as this only in the most severe cases, and in particular in those cases where treatment has not been too successful the previous year. This last winter I have been inoculating only two patients since October. I am still advising very slight cases of hay fever to postpone prophylactic treatment till March. It is certainly difficult, as Dr. Sormani says, to tell how much treatment will be necessary. While it is true that comparatively severe cases sometimes respond well to what would seem to be much too few inoculations, yet, on the other hand, the more inoculations one gives the more certain is the success.

I am, Sir, yours faithfully,

Devonshire-place, W., Feb. 28th, 1916. J. FREEMAN.

TUBERCULOSIS AND THE WAR.

To the Editor of THE LANCET.

SIR,—With regard to your annotation on this subject in THE LANCET of Jan. 15th it is a little difficult to understand how tuberculosis is to be eradicated if many of the present methods of dealing with this disease are persisted in. From experience gained in dealing with this disease in a county of 250,000 inhabitants over a period of seven years I have come to the conclusion that schemes are overweighted by the attention given to what are called advanced cases; indeed, in practice in most districts the only cases catered for are already incurable when first given a chance, and the most that can be expected of a large number is that they will develop into what may be called working chronics not necessarily innocent of the capacity to infect others. Unfortunately, very few sanatoriums have been provided which are suitable

for the reception of curable cases, and even those that are suitable in themselves do not always provide the essentials for curing early cases; the existence of such institutions naturally brings discredit on the whole treatment.

No one I suppose would recommend commencing to isolate scarlet fever at the end of the second week, yet it is just as foolish to imagine that isolating what are better called end cases will produce any diminution in the incidence of the disease. Pulmonary tuberculosis is a disease which usually lasts for months or years, and is often more infectious in the early stage than later. If a case is really an advanced one the expense can only be small if the patient lives for a short time; isolating at this stage will only prevent infection for a few weeks, and therefore will produce no result. If, on the other hand, by advanced case is meant a chronic who may live for months and who placed in an institution may live a great deal longer without any prospect of permanent improvement, then the expense becomes prohibitive. Furthermore, every penny spent at the wrong end of the scheme takes money from the treatment at the right end, and in addition as all sorts of spurious promises are held out to these hopeless cases in order to persuade them to go into institutions discredit is thrown upon the whole treatment. The most feasible way of combating the disease would seem to be to leave alone, except in so far as nursing is possible, all advanced cases, and commence with the early case; if, for instance, the first case from a family be taken at once and placed in a sanatorium, not only would the patient receive the maximum benefit, but the remainder of the family would be saved from becoming infected. It seems recognised by all that this is a very difficult disease to cure, the reason being that no effort is made to treat it effectually until it is hopeless. That this feature of the case has not been overlooked by all may be gathered from a quotation which I have already made in THE LANCET of April 3rd, 1909, in a paper on Graduated Rest, from a lecture delivered by Professor Niemeyer, of Tübingen, at least as long ago as 1866. He makes the following observations in the course of other remarks on treatment:—

> In the first case strict measures are as a rule considered useless and their enforcement unnecessary. The patient is allowed to follow his employment until the rising pyrexia and the increasing debility force him to remain at home or until hæmoptysis pleuritic pains, the appearance of dullness over the chest urgently demand that the supposed "secondary" pneumonia and pleuritic processes be submitted at least to a symptomatic treatment. It will not be said that I exaggerate—let us be sincere! Is not this *laisser aller* practice founded on reasoning of everyday occurrence with regard to the affection under discussion? It is seldom that a medical man reproaches himself for having by his carelessness been guilty of the development of a phthisis florida ..... It is true even in case the physician should have fully recognised the nature of the disease, he will not be able to cut it short at once, but still he has every reason to give the strictest orders, he must do everything in his power to protect the patient from injurious influences; and to place him under such conditions as may be expected to put a stop to the further extension of the pneumonic process; and prevent its termination in cheesy infiltration and disintegration of the lung tissue. ..... Let any one make the experiment of having patients with the supposed signs of commencing pulmonary tuberculosis strictly confined to their beds for a time, forbidding them all unnecessary talking and coughing ..... and he will soon satisfy himself that many a patient gets well who would formerly have been assumed to be the subject of tuberculosis.

With the exception that fresh air is not mentioned this is a very good account of what sanatorium treatment should really be. On meeting with a chronic or with an advanced case, inquiries should always be made as to whether this treatment had been tried at the proper time, and if not, why?—for at least as great discredit should fall on the medical man for omitting this treatment, if the indications were clear, as for neglecting to have an acute appendix operated upon. Of course, we know now, though many seldom act upon the knowledge, that the pre-tuberculous stage is really always tubercle.

If early cases are to be obtained it is highly necessary that sanatorium accommodation, however small in amount, should be suitable. A sanatorium should fulfil the following requirements: (1) It should be a place where patients not manifestly ill can be sent; (2) the patients should be kept in bed so long as they have not a normal rectal temperature (97·7° F. in the morning), this period will usually be short; (3) bad cases should not be mixed up with good, especially on the plea that it is impossible otherwise to get them to go to an institution; and especially (4) it should be clearly understood that on leaving the patients are not expected to require after-care, and that they will be able to return to their previous vocations. It is doubtful if it is worth while attempting to cure a disease if, after treatment, the patient is unable to live a normal life and cannot look after himself. Anyone who has his mind full of after-care must also have his mind full of a very unsatisfactory type of case. The object of treating these patients thus is threefold: (1) to prevent the infection of families and the public, early cases with a small amount of sputum may be very infectious; (2) to instruct the patient how to treat himself in case of relapse, and how to avoid infecting his family should he remain or become infectious; (3) to prevent the formation of chronics who are the chief carriers of the disease.

It is not to be assumed that a chronic will necessarily die from consumption; indeed, the danger of infection would seem to be proportionate to the length of the duration of the disease. Finally, I should look very critically upon any scheme for attempting to place these patients in industrial colonies, a proposition which in itself admits incapacity to cure.

I am, Sir, yours faithfully,

EDWARD E. PREST.

Ayrshire Sanatorium, New Cumnock, Feb. 26th, 1916.

THE BACTERIOLOGY OF CEREBRO-SPINAL FEVER.

To the Editor of THE LANCET.

SIR,—The report of the Special Advisory Committee upon bacteriological studies of cerebro-spinal fever during the epidemic of 1915[1] is one of the most inspiring and important pronouncements that have been published on the subject, and will be read with the greatest interest by everyone who has worked on the subject. I take it that by the publication of this report the matter has been thrown open for discussion, and one is therefore justified in meeting as far as possible one or two of the criticisms made therein.

Firstly, in regard to the rapid agglutination test which I put forward for the recognition of the meningococcus. It is, I believe, a reliable test, but

[1] See THE LANCET, Feb. 26th, 1916, p. 471.

it has been criticised by the committee under a misapprehension. This I desire to remove in order that the method may not suffer from what is an undeserved stigma. They say:

> That this method is rapid cannot be doubted, but its reliability is another matter even apart from the difficulties introduced by racial agglutinability. A method must be judged by its results, and in Dr. Crowe's hands it seems to have led to a considerable percentage of error, if we may judge from Major Gordon's criticism of the inordinate number of positive contacts segregated at Devonport, a question to which we shall return later.

The method was evolved after the contacts had been discharged, and was not in use when testing the organisms derived from these contacts. The research laboratory fitted up by the War Office was not in working order until after the camp was broken up, hence the "judgment by results" will, I trust, be suspended until the work of the present season can be taken as the criterion.

The second criticism to which I wish to allude is contained in the same sentence quoted above. Again, I would request that the present season's results may be brought under review before my medium is condemned on account of the high proportion of positives found by me. In their statistics the Special Advisory Committee felt bound to exclude these as doubtful in view of the criticism by Major Gordon. I would not for a moment object to this criticism were it put forward by the Special Advisory Committee as their own. It is, however, founded on that of the Millbank observers; and evidence from still other observers, as I will shortly show from the report itself, tends to justify my disputed findings.

In the first place considering the conditions under which these contacts were segregated I do not think it surprising that large numbers of them were positive. That some were held who had organisms in their throats resembling meningococci, but which were not meningococci, is extremely likely, and the reason for this will shortly be clear, yet I do not think that the proportion was a large one. Contacts were segregated in crowded hutments and, owing to the bad weather, frequently in close confinement, and this segregation was enforced before and not after the men had been swabbed to exclude the non-infected. Now the report itself shows that under circumstances of overcrowding as many as 66 per cent. may be found to be positive. Again, very intense methods were used to try to cure the carrier condition. In the report of Dr. Colebrook's work it is plain that such methods result in an extremely obstinate carrier condition. There is thus no inherent improbability in my findings, for carriers would rapidly infect their neighbours, as was shown by me to occur (*vide* report) owing to close segregation, and would remain positive for a longer time by reason of excessive treatment. The surprising thing is that after several weeks of such surroundings any of my contacts were found to be negative.

On studying the report one finds that the Local Government Board obtained from 10 to 13 per cent. positive among non-contacts, whilst among military contacts the total percentage worked out at only 6·5 per cent. We learn also that the greater amount of these were obtained by the Millbank method. This percentage (6·5) excludes mine at the Devonport camp, and, of course, quite properly so. On comparing the Local Government Board figures with those of the military, one is forced to conclude either that the Millbank method is inadequate in finding positives, or that the Local Government Board workers, as is imputed to me, find meningococci where none exist. Or we are left with the paradox that contacts give a lower percentage of carriers than non-contacts, from which it would appear that the way to avoid becoming a carrier is to mix as far as possible with cerebro-spinal fever cases, a *reductio ad absurdum*. I cannot be certain as regards my positives because, as the Advisory Committee justly say, all confirmatory tests were abandoned. This was, however, through force of circumstances, owing to an only partially trained laboratory staff and press of all sorts of other work. But neither in the Millbank method could I perceive that any confirmatory tests were made use of, if we exclude the 23° C. test, shown since to be unreliable.

To put the matter succinctly, if I may say so, the Special Advisory Committee, of course quite unintentionally, have given full weight to the Millbank criticism that my medium errs in finding too many positive contacts, but without laying equal stress on the comments of other workers in regard to the medium sent out from the central laboratory.

I am, Sir, yours faithfully,

Military Hospital, Devonport, Feb. 24th. H. WARREN CROWE.

THE SIGNIFICANCE OF CERVICAL CAPILLARY MARKINGS.

To the Editor of THE LANCET.

SIR,—In the recent correspondence on the "New Sign in Pulmonary Tuberculosis" I attempted to direct attention to certain red surface-markings in the neighbourhood of the upper dorsal vertebræ in cases of pulmonary tuberculosis. As none of the other correspondents wrote about them, and as I am unable to find any accurate reference to them in any work on pulmonary tuberculosis, I take the liberty, with your permission, of again directing attention to them.

They may be seen as bright or dark red markings. Sometimes they are isolated straight lines, few in number. At other times they have a Y-shaped appearance set close together or scattered. Some cases show a distinct irregular circular form, almost like the spokes of a wheel radiating from a centre to a periphery. They suggest capillary obstruction or congestion, and as such have no definite form. They are situated most frequently on one or both sides of the seventh cervical and first dorsal vertebræ. They may occur on one side only. They may extend unilaterally or bilaterally as far as the third or fourth dorsal vertebræ. Sometimes the circular form is found on one side only, or embracing both sides of the vertebræ, or a few lines may be found about the seventh cervical, and there may be a circle below.

These markings are an abnormality, and though I have only seen them in association with pulmonary tuberculosis it is quite possible they may occur in association with other diseases, but the fact has yet to be recorded. They are to be noticed at every age from 2 years to 50, and perhaps at a further age. Statistics which I have collated show that 80 per cent. of the supposedly tuberculous out-patient children under 5 years of age have the markings. Of children between 5 years and 15 years of age 70 per cent. showed the markings. These include out-patients and tuberculosis dispensary patients, the 100 per cent. being notified cases. Of the tuberculosis dispensary patients over 15 years of age, 56 per cent. of them have the markings and 44 per cent. have no markings. Of these dispensary patients, 15 have other lesions in addition to their pulmonary lesion. Seven show markings and eight

are negative, making the percentage 45 and 55 respectively.

As the space at your disposal for a letter is necessarily limited I will at once arrive at my conclusions:—

1. That 80 per cent. of the tuberculous children under five years of age who have come under my notice have been infected in the postero-apical regions, and that pleural thickening has taken place, giving rise to capillary congestion.

2. As I am unable to find capillary markings in certain older children (5 to 15) who have been free from early wasting, marasmus, pneumonia, or bronchitis, I think their infection has occurred after infancy.

3. That the "older children" who have the markings have become to some extent immune, and as can be shown by comparison with the still older (over 15 years) cases their comparative recovery is more assured than in those who are free from markings.

4. That the presence of tubercle bacilli in the sputum of tuberculous patients is of rarer occurrence in those showing markings than in those having no markings.

5. The curative response to tuberculin and to general treatment is better in those having markings than in those without.

I am, Sir, yours faithfully,

R. CRAWSHAW HOLT, M.D.Durh., M.R.C.P.Lond.

Manchester, Feb. 17th, 1916.

IRON-BACTERIA IN SHIP'S TANKS.

To the Editor of THE LANCET.

SIR,—I read with interest the annotation in THE LANCET of Feb. 5th on the occurrence of iron-bacteria in ferruginous waters. During the past year I have come across two ships with their water tanks infected with crenothrix. As I have seen no record of the presence of these organisms in ships' tanks I thought the following note might be of interest. Both ships had had cases with gastro-intestinal symptoms on board, which together with the condition of the water resulted in samples from their drinking-water tanks being sent up to the laboratory of the R.N. Hospital, Chatham, for bacteriological examination. One of the ships sent also a sample from the supply hose of the "water boat" which provides ships in harbour with fresh water.

All these three samples presented much the same appearance; they were cloudy and contained a plentiful dark red-brown deposit. Microscopical examination of this deposit proved it chiefly to consist of threads of a crenothrix, the outer mucilaginous membranes of which were impregnated with a granular reddish deposit. The addition of a drop of dilute hydrochloric acid and potassium ferrocyanide solution turned the granules deep blue, proving them to contain iron. These organisms are usually considered quite harmless, and the gastro-intestinal symptoms on board were probably coincidental (in fact, some of the cases certainly were nothing to do with the water). But both ships complained of the unpleasant taste and appearance of the water, especially after the tanks had been shaken up in rough weather. The presence of the organism in the supplying "water boat" shows the source of origin of the crenothrix, and the possibility of any ship with defective lining to her water tanks getting infected with this unpleasant if innocuous organism.

I am, Sir, yours faithfully,

SHELDON F. DUDLEY, M.B., B.S.Lond.,
Staff-Surgeon, R.N.

Central Laboratory, R.N. Hospital, Chatham, Feb. 25th, 1916.

ALBUMINURIC RETINITIS IN EPIDEMIC (ACUTE) NEPHRITIS.

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 12th, under the above heading, Dr. Samuel West comments upon my article in THE LANCET of Dec. 18th, 1915. It clearly was not possible, within the scope of such an article, to define and delimit exactly what are meant by chronic nephritis and by renal retinitis, and Dr. West in his letter does not define, for the same reason no doubt, what he means by a granular kidney. Dr. West has consistently advocated the differentiation of two forms of renal retinitis, a differentiation which I believe to be of great importance. I cannot, however, follow him when he says that the "exsudative" form "is the same as that usually understood by the term acute optic neuritis and is like that seen with a cerebral tumour." In rare instances renal retinitis in its early stage takes the form of "optic neuritis," which may be indistinguishable from that seen with a cerebral tumour; this, however, is quite unusual, and with the progress of the disease the development of isolated soft-edged areas of exudate, wide of the disc, usually renders obvious the nature of the change. Nor can I agree entirely with his description of the "degenerative" form, for whilst the appearances are highly characteristic they are not entirely pathognomonic of granular kidney, and although the small white spots which compose the star figure are certainly very chronic in duration, I have watched them by means of outline plans from month to month, and in four cases at least have found them to disappear and leave no trace behind.

With regard to the occurrence of retinitis in acute nephritis, I do not know if anyone can say when an acute becomes a chronic nephritis; I certainly did not suppose that nine weeks was the qualifying term. My point was that amongst these cases of nephritis the greater number, as I think is made clear by Dr. Langdon Brown, ran the course of an acute nephritis, and after some weeks improved towards recovery, and among such cases I did not find a case of retinitis. On the other hand, in some cases the disease continued for many weeks or several months, with persistent urinary signs, persistent œdema, and a considerably increased blood pressure; and it was amongst this group of chronic cases, or should I have said more chronic cases? that all the instances of retinitis (five in number) occurred.—I am, Sir, yours faithfully,

Harley-street, W., Feb. 23rd, 1916. R. FOSTER MOORE.

AN IMPEDIMENT TO A MEDICAL ENTENTE.

To the Editor of THE LANCET.

SIR,—The reference in your issue of Feb. 19th to the fact that English surgical instrument makers and publishers do not distribute catalogues in France admits of easy explanation—viz., that a heavy duty is charged on such printed matter. Only last month a catalogue forwarded to me by an English firm of instrument makers was charged 3 frs. 80 by the French Customs. On several occasions I have had to pay 2 frs. 80 duty on the big biennial numbers of the *Chemist and Druggist*.

It is obviously impossible to carry on commercial propaganda under these conditions.

I am, Sir, yours faithfully,

ALFRED S. GUBB, M.D.Paris.

Aix-les-Bains, Feb. 25th, 1916.

SISTER FRENCH MEMORIAL FUND.

To the Editor of THE LANCET.

SIR,—May we draw the attention of former and present students of the Manchester Royal Infirmary to the above fund, which has been initiated to commemorate the 35 years of faithful service rendered to the institution by the late Sister French, who passed away in November last. It is intended to place (1) a tablet in her old ward in S.I. Unit, and (2) a small stained-glass window in the infirmary chapel.

Contributions may be sent to the general superintendent and secretary at the infirmary, and will be duly acknowledged by him.

We are, Sir, yours faithfully,

G. A. WRIGHT, F.R.C.S.,
Honorary Consulting Surgeon;

J. HOWSON RAY, F.R.C.S.,
Feb. 25th, 1916. Honorary Surgeon, Manchester Royal Infirmary.

CLINICAL THERMOMETRY.

To the Editor of THE LANCET.

SIR,—May I add my testimony to that of Sir Lauder Brunton and Sir George Savage as to the use of the old indexless thermometers? I quite well remember using them in 1865–66 when acting as clinical clerk to Dr. (now Sir Clifford) Allbutt at the old infirmary, Leeds. On turning over my notes I find that these instruments were often used by both physicians and surgeons to the infirmary.—I am, Sir, yours faithfully,

CHARLES ALDRIDGE, M.D.Aberd.

Plympton, South Devon, Feb. 23rd, 1916.

THE COAL SMOKE ABATEMENT SOCIETY.

To the Editor of THE LANCET.

SIR,—With reference to your appreciative article on the work of the Committee for the Investigation of Atmospheric Pollution, in which you give me the chief credit of founding the Coal Smoke Abatement Society, I wish to point out for the sake of historical accuracy that this is not correct. This society was formed as the result of a letter addressed by Sir William Richmond to the *Times*, and published on Nov. 18th, 1898, and the first meeting was held at 6, Onslow-gardens, the residence of the late Mr. Frederick Verney, at which Sir William Richmond was elected President.

I am, Sir, yours faithfully,

H. A. DES VŒUX,
Honorary Treasurer, Coal Smoke Abatement Society.

Buckingham Gate, S.W., Feb. 26th, 1916.

WOMEN DENTAL STUDENTS IN LONDON.—The School of Dental Surgery at the Royal Dental Hospital of London, in Leicester-square, has recently opened its classes to women students, who already have facilities for study at the Dental Department of University College Hospital. A circular relating to arrangements for women dental students has been issued by the Dean of the London (Royal Free Hospital) School of Medicine, and can be obtained on application to the Secretary, 8, Hunter-street, W.C.

CHILD-WELFARE IN IRELAND.—The Under Secretary for Ireland, Sir Matthew Nathan, recently announced at Dublin that a new Treasury grant of £5000 had been made available for child-welfare in Ireland, the chief condition being that in case of its coming into operation in any district an equivalent sum should be raised from local bodies, either by way of a special rate or from private subscriptions. So far the only local body to take action in this matter is the Newry urban council, and their proposal has been sanctioned by the Local Government Board of Ireland.

Obituary.

PIETRO GROCCO.

SCIENCE, literature, art have their own "front" or "fighting line" as much as the profession of arms, and under each of the above heads Italy has just sustained losses not less severe than those of her general officers in the war zone. After De Cristoforis, Baccelli, and now, after Baccelli, Grocco; in these Italy has lost three of her greatest clinical teachers and consultants, the former two at a patriarchal, though still hale and active, old age, the last-named comparatively young.

Pietro Grocco was born of humble parents in the Province of Pavia in the June of 1856, and while still a lad evinced at the lycée an intelligence and a mental energy which were yet more conspicuous at the University. Enrolled in the medical curriculum he inspired all his teachers with the best hopes of his future, and, on graduating with honours, his record was inscribed in the University album as "the most brilliant ever registered at Pavia." Three years thereafter he repaired to Paris to attend the clinique of Charcot, and in 1882 he went to Vienna to study under Rosenthal—from both of whom he drew a knowledge and an inspiration which, embodied in papers read before successive congresses of "Medicina Interna," placed him in the front rank of Italy's rising clinicians. A three years' tenure of the chair of practice of medicine at Perugia was followed by his election to a post on the same subject at Pisa, whence in 1892 he was transferred to Florence, there to act as Direttore della Medicina Clinica in the Istituto di Studi Superiori. By this time he had become an authority in more than one group of diseases, and his skill in diagnosis and treatment found ever-increasing scope in a consulting practice which extended all over Italy. The Florentine school enjoyed, however, his special care and largess, founding as he did, mainly from his own resources, the Istituto Antirabico on the lines of Pasteur, and making the thermal waters of the neighbouring Montecatini a balneary centre in practical connexion with his courses on the vast group of rheumatoid maladies. For a series of summers he first coöperated with Baccelli and then succeeded him in developing the efficacy and enhancing the repute of those waters, till numbers of patients, after wintering in this or that Italian "sun-trap," ceased to cross the Alps as formerly for balneary treatment, but found in Montecatini a "cure" equal, if not superior, to that supposed to be peculiar to the Austro-Hungarian resorts.

In 1905 he was made a Senator of the Kingdom, in accordance with Italy's custom to promote men of scientific distinction to the Upper Chamber, and here again his advice or intervention was of public benefit in more than one hygienic "departure." Consulting practice and clinical prælections and occasional legislative work, however, did not exhaust his energies, his pen being often in request not only for contributions to the agenda paper of this or that Congress of Internal Medicine, but also for express publications. The mere enumeration of these occupies half a closely printed column of the leading Florentine journal—many of them of more than temporary value; some of them, indeed, still standards of reference, particularly on neurasthenia and arterio-sclerosis; on angina pectoris; on certain forms of hepatic disease as ascertained by palpation and percussion; on the differential diagnosis of biliary calculus and duodenal ulcer; on the

diagnostic importance of aorto-pericardiac murmurs; to say nothing of his controversy with Professor Teissier on "The Triangle of Grocco."

At his country seat in the Province of Pisa he interested himself deeply in the welfare of his tenantry, being a landlord whose care pursued them beyond their material concerns and intervened, often with salutary effect, in their *vie intime*, educational and social. Honours came to him in profusion—Cavaliere dell' Ordine della Corona d'Italia; Ufficiale of the same Order; and corresponding membership of learned societies, medical and other, both Italian and foreign, European and Transatlantic.

Spare in build and wiry in physique, Grocco overtaxed his powers beyond the restorative efficacy of holiday or vacation—too few and too often interrupted as these were. An attack in August last of broncho-pneumonia confined him to his room. Occasional improvement, followed by relapses of progressive gravity, indicated change of scene and air, and from Florence he was removed to his Pisan château of Castiglioncello. But this was not enough. After a brief sojourn in that charming retreat he yearned for Alpine air, and, against the remonstrances of his medical colleagues, he set out for Courmayeur, in the Alta Italia, accompanied by Dr. Baduel and another professor and consultant of the Florentine school. Arriving at his destination, after a seemingly smooth journey, he suddenly collapsed in a fit of profuse hæmoptysis, and literally died in the arms of Dr. Baduel—mourned throughout Italy as a great physician, a great teacher, and an exemplary citizen, whose 59 years of life will long be held in grateful remembrance by patients of nearly every nationality, who owe to his advice and to his skill a length of days which he was all too self-denied to reach or to enjoy.

GEORGE BERTRAM HUNT, M.D. LOND.

George Bertram Hunt, the elder son of the late George Hunt, a member of Lloyds, took his medical course at University College, London, where he was Atkinson Morley scholar, and after qualifying in 1894 held in succession the house appointments of surgeon, physician, resident officer, and obstetric assistant, contributing at this time a series of useful clinical articles to this and other medical journals. He took the M.D. of London University and then entered private practice at Scarborough, latterly in partnership with Dr. George Handcock, and was for many years on the staff of the hospital and dispensary. Very gradually, but inevitably, a chronic fibroid phthisis dating from his student days incapacitated him from general practice, and he sought relief in Switzerland, where for the last five years he was a well-known figure at Leysin and Arosa, with a short interval as medical officer to a Nile boat. As his physical ability diminished he remained mentally keen and alert, and occupied himself with translations of medical books and such clinical work as was open to him. His life was an example of cheerful endurance of physical limitation, and a constant stimulus to his many friends to make the best of their own lives.

RICHARD MILNTHORP, M.R.C.S., L.R.C.P. LOND.—Mr. Richard Milnthorp, who recently died from pneumonia in Leeds at the age of 41, was a civil surgeon in the South African War with temporary rank as Captain. He practised later at Chatham, then settling in Leeds 11 years ago he built up an extensive practice in the Burmantofts district, where he will be greatly missed by the poor.

The War.

THE CASUALTY LIST.

THE following names of medical officers appear among the casualties announced since our last issue:—

Killed.

Lieutenant J. T. Waite, 5th East Kent Regiment (T.F.), The Buffs, graduated in 1896, and on the outbreak of war left his practice at Pluckley, Kent, to take his place in a machine-gun section.

Died.

Captain H. J. Rutherford Jones, R.A.M.C., received his medical education at the London Hospital, graduating in 1890, and was at one time house surgeon at the Poplar Hospital for Accidents.

Lieutenant R. G. Brown, R.A.M.C., graduated at Aberdeen in 1903, and was in practice at Portsmouth at the outbreak of war, when he was appointed a civil surgeon at the Alexandra Hospital, Cosham, and subsequently joined the Royal Army Medical Corps.

Wounded.

Captain H. Shield, R.A.M.C., 1st Northumbrian Field Ambulance (T.F.), attached to the 4th Battalion Yorkshire Regiment (T.F.).

DEATHS AMONG THE SONS OF MEDICAL MEN.

The following sons of medical men must be added to our lists of those who have fallen during the war:—

Lieutenant D. W. Ramsay, 10th Battalion Sherwood Foresters, eldest son of Dr. F. W. Ramsay, of Bournemouth.

W. Gunn, Canadian Expeditionary Force, eldest son of Dr. F. W. Gunn, of Ashington (late of Widdrington), Northumberland.

THE HONOURS LIST.

His Majesty the King has conferred the Distinguished Service Cross upon—

Surgeon Alfred Robinson MacMullen, R.N.

For his services on Jan. 23rd, 1916, at Serengeti, in East Africa, when he showed remarkable bravery in searching for and rescuing a severely wounded officer under heavy machine-gun and rifle fire close to concealed enemy entrenchments.

The following foreign decorations have, with the approval of His Majesty the King, been conferred upon the medical officers mentioned:—

By the President of the French Republic.

Legion of Honour: Croix de Commandeur.—Surgeon-General W. G. Macpherson, C.B., C.M.G.; Surgeon-General T. P. Woodhouse, C.B.; Colonel Sir W. B. Leishman, C.B., F.R.S., A.M.S.

Legion of Honour: Croix d'Officier.—Colonel C. H. Burtchaell, C.M.G., A.M.S.

Legion of Honour: Croix de Chevalier.—Major W. R. Battye, D.S.O., I.M.S.; Major R. B. Black, R.A.M.C.; Major J. S. Pascoe, R.A.M.C.; Major E. Ryan, D.S.O., R.A.M.C.; Major J. W. West, R.A.M.C.; Captain F. Casement, R.A.M.C.; Captain D. M. McWhae, Australian A.M.C.; Captain (temporary Major) J. Morley, R.A.M.C. (T.F.); Lieutenant (temporary Captain) J. W. Craven, R.A.M.C. (T.F.).

By the King of the Belgians.

Commandeur de l'Ordre de Leopold.—Surgeon-General Sir A. T. Sloggett, K.C.B., C.M.G.; Colonel S. G. Moores, C.B., A.M.S.

Commandeur de l'Ordre de la Couronne.—Surgeon-General R. Porter; Lieutenant-Colonel S. L. Cummins, C.M.G., R.A.M.C.; Lieutenant-Colonel A. Chopping, C.M.G., R.A.M.C.

THE CALLING-UP OF MEDICAL MEN.

We learn that, owing to the desirability of applying to medical practitioners, who have not attested under the Derby Scheme, the same procedure as that adopted in respect of practitioners who have attested, it has been decided *not* to issue the new Army Council Instruction to which we referred in our last issue, p. 487 (which must therefore be considered as cancelled), and to substitute an instruction which will be applicable to both categories of doctors, and also to make certain important additions, especially as regards postponement to March 31st.

We are officially informed by the War Office that, in accordance with their previous announcements, doctors who have undertaken to accept a commission in the Royal Army Medical Corps, if offered one, will not be taken for general service; and therefore that any doctor in England and Wales who (whether attested under the Derby Scheme or not) has enrolled under the scheme of the Central Medical War Committee, or has offered his services in the Royal Army Medical Corps direct to the War Office, should, if he receives a Notice Paper from a Recruiting Officer calling him up (whether by reason of attestation or under the provisions of the Military Service Act), return it to the Recruiting Officer together with his certificate of enrolment or the War Office acknowledgment of provisional acceptance, as the case may be; and the Notice will then be cancelled and the practitioner will remain in the Reserve until selected for a commission in the Royal Army Medical Corps.

Doctors will not be called up, whether by reason of attestation or under the Military Service Act, until after March 31st, 1916.

Doctors in England and Wales who have not undertaken to accept a commission (if offered one) in the Royal Army Medical Corps will, when called up (whether by reason of attestation or under the Military Service Act), have the same rights of appeal for exemption as men who are not doctors; but all cases coming before the Central Tribunal will be decided by that tribunal after receiving advice from the Representative Committee of the Medical Profession specially recognised for the purpose. Analogous arrangements will obtain in respect of doctors in Scotland.

VACANCIES FOR MEDICAL OFFICERS: 2/1ST SOUTH WALES MOUNTED BRIGADE.—There is a vacancy for a Medical Officer in the Mounted Field Ambulance. If accustomed to horses he could carry out some of the duties of Transport Officer. The Imperial Service pledge is necessary. A Regimental Medical Officer is also required for one of the Yeomanry Regiments of the Brigade. Applications to Lieutenant-Colonel Herbert Jones, S.M.O., Bulcamp, Blythburgh, Suffolk.

HEALTH OF MUNITION WORKERS.—An appendix to Memorandum No. 3 on Industrial Canteens has just been issued (Wyman and Sons, price 4*d.*) by the Health of Munition Workers Committee dealing with the construction and equipment of canteens. Plans and specifications are given of two types of canteen, and a list of articles required for the catering equipment. Communications are to be addressed to the Secretary, Canteens Committee, Central Control Board, Kingsway, W.C.

A RED CROSS COMMISSIONER FOR BRITISH EAST AFRICA.—The joint committee of the British Red Cross Society and the Order of St. John has, with the approval of the War Office, appointed Colonel James Montgomery, C.S.I., Red Cross Commissioner for British East Africa. He is to start at once for East Africa.

STANDARD OF VISION FOR COMMISSIONS IN THE ARMY.—In reply to a question in the House of Commons, Mr. Tennant recently stated that the vision of applicants for commissions in the army must not be below 6/24 without glasses, and after correction with glasses it must be normal in the better eye and not less than 6/12 in the other. For candidates for the Special Reserve of Officers the same standard is demanded, except that vision without glasses in each eye must not be below 6/36. There is no special standard required for active as distinct from home service.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates were successful:—

Surgery.—W. J. May (Sections I. and II.), London Hospital; G. S. Mitchell (Sections I. and II.), Westminster Hospital; L. F. Pain (Sections I. and II.), Royal Free Hospital; and G. C. N. Younger (Section I.), Middlesex Hospital.

Medicine.—E. V. Beaumont (Sections I. and II.), St. Mary's Hospital; H. M. Gray (Sections I. and II.), Guy's Hospital; L. Kahan (Sections I. and II.), Lausanne and London Hospital; and W. J. May (Section II.), London Hospital.

Forensic Medicine.—J. Y. Dent, King's College Hospital; P. C. C. Fenwick, St. Thomas's Hospital; H. M. Hobson, London Hospital; and G. C. N. Younger, Middlesex Hospital.

Midwifery.—P. G. H. Bayon, Genoa; W. F. R. Castle, Cambridge and London Hospital; B. Ghobrial, Charing Cross Hospital; E. N. Glover and W. H. A. Pratt, Guy's Hospital; and A. L. Watts, Oxford and University College Hospital.

The Diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—W. F. R. Castle, L. Kahan, W. J. May, and G. S. Mitchell.

AT the Oxford Ophthalmological Congress, which, as we have already announced, will assemble at Keble College, Oxford, on Wednesday, July 12th next, Sir William Osler will open a discussion on the Relationship of Ophthalmology to General Medicine, on the morning of Thursday the 13th, and Sir Anderson Critchett will reopen the subject in the afternoon. The following, amongst others, are expected to take part: Mr. P. H. Adams (Oxford), Dr. F. E Batten (London), Mr. F. Richardson Cross (Clifton, Bristol), Dr. A. G. Gibson (Oxford), Dr. T. S. Good (Littlemore Asylum), Dr. C. O. Hawthorne (London), Dr. Thomas J. Horder (London), Mr. W. H. H. Jessop (London), Dr. George Mackay (Edinburgh), Mr. Leslie Paton (London), Mr. Sydney Stephenson (London), and Dr. James Taylor (London). The second day, Friday, the 14th, will be given up to papers, demonstrations, and cases. Members willing to contribute to the success of the meeting with cases, specimens, new operations, or novelties of any kind, are asked to communicate with Mr. Bernard Cridland, Honorary Secretary, at Salisbury House, Wolverhampton.

ROYAL FREE HOSPITAL.—At a time when every other medical school in London has a reduced number of students, the London School of Medicine for Women has doubled its entry. The demand for increased facilities of clinical study for women is the natural result, and the committee of the Royal Free Hospital is appealing for £200,000 to provide maternity and special departments on a site of upwards of an acre in extent presented by an anonymous benefactor. Information concerning the appeal can be obtained from the secretary, Special Appeal Fund, Royal Free Hospital, Gray's Inn-road, W.C.

QUEEN VICTORIA JUBILEE CONVALESCENT HOME, BRISTOL.—The annual meeting of the friends of this institution was held on Feb. 22nd, under the presidency of the Bishop of Bristol. The medical report stated that during 1915 the patients admitted numbered 1857. The average daily number of patients was 74, the average length of stay being 14¼ days. The financial statement showed the income was £3431, and the expenditure amounted to £3008.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, MARYLEBONE-ROAD, N.W.—At the annual meeting of the governors of Queen Charlotte's Hospital held on Feb. 29th it was reported that since the outbreak of war over 1600 wives of our soldiers and sailors had been admitted to the wards of the hospital or attended and nursed in their own homes at a cost to the hospital of nearly £3000.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Retrenchment in Public Expenditure.

SOME of the recommendations in the final report of the Retrenchment Committee, now issued, affect medical men and the work of public health. Amongst them are the following:—

Home Office.—The reports of certifying surgeons on accidents in factories should be dispensed with. The Board of Control should be reduced in number and certain of their duties delegated to deputy commissioners or inspectors. A reduced contribution should be prescribed towards the cost of institutional treatment for mentally defective persons, except in urgent cases, and a limitation should be fixed on the cost of maintenance in all cases.

Local Government Board.—A special inquiry into the administrative staff of the Local Government Board should take place. The fees paid to medical practitioners for notification of infectious diseases should be reduced. With regard to this matter the Committee say: "We recommend that the Local Government Board should take immediate steps to revise the fees paid to medical practitioners for the notification of infectious diseases. At present the medical practitioner receives a fee of 2*s.* 6*d.* if the case occurs in his private practice, and 1*s.* if the case occurs in his practice as medical officer of any public body or institution. The total sums paid for notification fees in England and Wales in each of the five years ending 1911 was approximately £30,000; but since that time the total cost has steadily risen, and a further substantial increase of cost will probably result from the recent Order requiring the notification of cases of measles and German measles. As doctors have now become familiar with the work of notification, and so many additional diseases have been added to the list since the fees were originally fixed, we consider that the time has come for reducing the 2*s.* 6*d.* fee to 1*s.* The amount of labour involved in filling up the notification form is, we understand, very slight indeed, and a fee of 1*s.* would seem to be adequate remuneration for the purpose."

Board of Education.—The responsibility for medical work, except in public elementary schools, should be transferred from the Board of Education to the Local Government Board, and the first opportunity should be taken of amalgamating the medical branches of the two departments. Going into details on this point the Committee say: "We understand that the activities of the Board of Education and the Local Government Board overlap to a considerable extent as regards arrangements for the health of mothers and young children under school age, and that the two departments have found it very difficult to settle a clear line of demarcation between their respective spheres. It is in our opinion most unsatisfactory that two Government Departments should deal with what is essentially the same problem, and it can only lead to disputes and an unnecessary inflation of staff. It is a difficult problem to decide between the two departments in this matter; but as long as there continue to be two medical branches we consider that, in all the circumstances, the only satisfactory solution would be that the control of all institutions (including schools for mothers and day nurseries) providing in any way for the welfare, from the health point of view, of mothers or children under school age should be handed over by the Board of Education entirely to the Local Government Board for them to administer in connexion with their public health work generally and in coöperation with the local health authorities. This plan is being adopted in Scotland, and we see no satisfactory alternative to it in present circumstances. The Board of Education could, of course, still continue to pay grants, if necessary, in respect of purely educational classes in cooking, needlework, &c., held in any of the institutions or by local education authorities elsewhere, but the duties of the Board's medical branch should, in our opinion, not extend beyond the supervision of the health work carried out for children of school age who are being educated in elementary, &c., schools under the Board's control. The above arrangement would, of course, be merely a makeshift, and it is very desirable in our opinion that the first opportunity should be taken of amalgamating the medical branches of the two departments altogether."

National Health Insurance.—Arrangements should be made to reduce the number of Health Insurance Commissioners. A special inquiry should be held into the cost of the Insurance Commissions' staffs, particularly in the case of the Welsh and Irish Commissions. Extra-statutory grants to Approved Societies, &c., outside the principle of insurance, should be closely restricted. A special inquiry should be undertaken with a view to the simplification of the Insurance Act.

The Committee came to the conclusion that the centralisation of the whole service did not appear to be practicable, but that it should be possible, with the retention of the four National Commissions for England, Wales, Scotland, and Ireland, to devise a scheme which would safeguard national interests and sentiments without the retention of so many as 21 Commissioners.

With regard to the simplification of the Act the report says: "We understand that much could be done to reduce the expense of the Act, and to increase the sums available for benefit, by simplifying its more elaborate provisions. The Chairman of the English Commission has informed us that some alterations have already been made by departmental action, and that considerable economies have been effected as a result; but we understand that very much larger savings would accrue—partly to public funds and partly to the funds of Approved Societies—if legislative sanction could be obtained for a number of more important administrative improvements which experience has shown to be desirable, and which would simplify work without material loss of efficiency or hardship to individuals, but which cannot be carried into effect without legislation. For instance, the present scheme for dealing with arrears of contributions and the accounting arrangements necessary to give effect to its provisions, the right of transfer, the special rates and options, the provisions for voluntary insurance and aliens, and many other points involve disproportionate expenditure, both to the State and to the societies. But the evidence which we have taken showed that few, if any, of these proposals would be absolutely non-contentious; and it was quite clear that the questions which afford the best field for economies—the system of medical and sanatorium benefit, the constitution of insurance committees, the approval of small societies, &c.—were acutely controversial. We could not have dealt with any of these questions without going far beyond the terms of our reference, and we have come to the conclusion that the best results would be obtained by a special inquiry into the whole administration of the Act, with a view to its reorganisation on a simpler basis."

These are recommendations only, but they will receive the close attention of the Government and of Parliament.

The Supply of Medical Men.

In the course of the debate on the third reading of the Consolidated Fund Bill on Tuesday, Feb. 29th, Mr. KING commented at length on the demands now being made by the army on the medical profession. He expressed the view that the organisation of the medical profession was wasteful and extravagant and took away too many men from the profession in this country.

HOUSE OF LORDS.

THURSDAY, FEB. 24TH.

Re-examination of Rejected Recruits.

Answering the Duke of SOMERSET, Lord NEWTON (who spoke on behalf of the Earl of DERBY) said that the Military Service Act laid down that where a man had been medically rejected for the army since August 14th the production of the medical certificate of rejection would secure him exemption. It was obvious, however, that the recruiting officer must be satisfied as to the genuineness of the claim for exemption. He had to satisfy himself on three points: (1) that the man who presented the certificate was the one to whom it was issued; (2) that the certificate was given by a medical man duly authorised by the War Office to examine recruits; and (3) that the certificate had been granted since August 14th. If the applicant were able to prove these three points to the satisfaction of the recruiting officer the claim for exemption would be held to have been made good. If the applicant were unable to prove them he would be notified accordingly by the recruiting officer and would be required to substantiate his claim before a civil court. There was no obligation on any man who had been recognised as rejected to submit to re-examination unless he wished to obtain an armlet, but in order to receive it he must run the risk of being brought in for some kind of service. It had been brought to the notice of the War Office that in some cases—no doubt owing to misunderstanding—recruiting officers had destroyed the blue paper certificates of rejection. Obviously that was a wrong course, and in cases in which it had been taken instructions would be given for a fresh issue of medical rejection forms.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 23RD.

The Sanitary Section of the Royal Army Medical Corps.

Mr. C. DUNCAN asked the Under Secretary for War whether an army order had been issued to commanding officers of the Royal Army Medical Corps instructing them not to appoint men attested under the Derby scheme to advertised positions in the Sanitary Section of the Royal Army Medical Corps, and whether he was aware that men with special qualifications and experience as sanitary inspectors were passed over because of their having attested under the

Derby scheme and a preference given in making appointments to such positions to unattested men.—Mr. TENNANT answered: I have no knowledge of any order in the sense mentioned having been issued. If my honourable friend is aware of any specific case in which an attested man has been passsd over and will furnish me with particulars, I shall be glad to have it fully investigated.

Action Against a Royal Army Medical Corps Officer.

Mr. ANDERSON asked the Under Secretary for War whether his attention had been drawn to the case of a Royal Army Medical Corps officer at Margate who, because his landlady in her own private house switched off the electric lights at a certain hour, called in an army guard and placed the woman under military arrest; whether he was aware that a judge and jury awarded the woman £250 damages; and whether the War Office proposed to take any further action concerning this officer.—Mr. TENNANT replied: I have seen a newspaper report of this case. An official report from the military authorities is being obtained.

Blinded Soldiers.

Replying to Mr. TYSON WILSON, Mr. TENNANT said: The number of non-commissioned officers and men rendered totally blind in the present war and discharged between the outbreak of the war and Jan. 31st, 1916, is 65, distributed as follows: Privates 59, corporals 4, sergeant 1, company sergeant-major 1.

Tuberculosis in the Army.

In answer to Mr. ASTOR, Mr. TENNANT wrote: The total number of cases of soldiers invalided from tuberculosis which were dealt with by the Chelsea Boards in 1915 was 2770. The cases of pulmonary tuberculosis are not recorded separately.

Midwives (Scotland) Act.

Mr. WATT asked the Secretary for Scotland whether the board under the Midwives (Scotland) Act had yet been set up, and if so, whether it had power to spend money with the right to tax municipalities and other local authorities for any deficit between its income and its expenditure.—Mr. MCKINNON WOOD replied: The answer to the first part of the question is in the affirmative. In answer to the second part, I would refer him to the provisions of Section 13 of the Act. Judging from the experience of the working of the English Act there appears no likelihood of any immediate or substantial claim on local authorities.

THURSDAY, FEB. 24TH.

Hospital Accommodation for New Zealand Forces.

Sir ARTHUR MARKHAM asked the Prime Minister whether his attention had been drawn to a statement made in the New Zealand Parliament by the Minister of Defence, the Hon. J. Allen, on July 7th, that when the New Zealand Expeditionary Force was despatched the British War Office undertook to provide relieving and stationary hospitals and a base hospital; that he, the Minister, being disturbed by a report received from the Dardanelles as to the medical arrangements, cabled twice to the Army Council offering hospital accommodation and equipment but received no reply; that subsequently the Governor cabled to Lord Kitchener asking that New Zealand should be allowed to provide her own hospitals; and that, after a delay of 16 days, a reply was received accepting the offer; whether he was aware that the New Zealand Cabinet on the following day took steps to despatch hospital equipment; would he say who was responsible for the delay in replying to the offer of the New Zealand Government; and whether the person or persons responsible would be dismissed for their neglect in this matter.—Mr. ASQUITH replied: I have not seen the statement referred to. I find that the cable from the Minister of Defence dated March 10th was not replied to until March 16th, when the personnel of the stationary hospital offered was accepted. It was necessary in the interval to consult the military authorities in Egypt before any proposals for bringing additional personnel were definitely confirmed. In the circumstances I do not think that the time occupied in these consultations could have been much reduced.

Nerve-strained Soldiers.

Mr. RENDALL asked the Financial Secretary to the War Office what sum the War Office had paid to asylum authorities since last June in respect to the care and treatment of uncertifiable soldiers invalided through nerve-strain in the war; and were these asylum authorities responsible, during the period that this payment was continued, for the care and treatment of soldiers so invalided who still continued in the army?—Mr. FORSTER said in reply: Soldiers so situated have not been placed in the care of asylum authorities, but certain hospital buildings have been taken over and are being conducted as military hospitals for this special class of case. The whole responsibility remains directly with the military authorities.

Mr. BUTCHER asked the Under Secretary for War what arrangements were now in existence for the care and treatment of uncertifiable cases of soldiers suffering from nerve disturbance and loss of mental balance; and whether he had yet been able to establish a special hospital for these cases in accordance with the intentions expressed by the Director of Medical Service on Feb. 12th, 1915.—Mr. TENNANT answered: The cases referred to are treated in the neurological sections of the Territorial Force General Hospitals throughout the country and in the Springfield War Hospital, Wandsworth, and the Red Cross Military Hospital, Maghull, near Liverpool. I have not been able to trace the expression of opinion referred to in the last part of the question, but I may say that no change in the present arrangements, which are satisfactory, is in contemplation.

Re-examination of Rejected Recruits.

In the course of the debate on the motion for the adjournment of the House, Mr. TENNANT said: A man who has been medically rejected since August 14th, and has produced proper evidence of that fact which can be accepted at once, is outside the scope of the Military Service Act. If he has been medically examined and if the medical officer has got his name in the book for that purpose, that evidence will certainly be accepted by the military authorities as being quite sufficient, if it can be proved that he is the right person to whom it is applicable and can show that he has been so medically rejected. On the other hand, if a man has nothing to show, and merely relies upon his own *ipse dixit*, we cannot, and I do not think the House can expect us to accept that.

TUESDAY, FEB. 29TH.

Medical Students and Military Service.

Answering Mr. SNOWDEN, Mr. TENNANT said: No alteration has been made in the decisions already announced in reference to medical students. The regulations have been framed on the same lines as those for theological students. If there be any distinction perhaps the treatment of the medical student is more generous.

Vaccination and Army Service.

Mr. YEO asked the Under Secretary for War whether vaccination was obligatory on men entering the army under the Derby Scheme.—Mr. TENNANT answered: It is expedient that all men should be vaccinated or revaccinated, and if a man has signed an undertaking to be vaccinated, it is presumed that he will adhere to his undertaking. If, however, he has not signed such an undertaking, no pressure is to be brought to bear on him to undergo vaccination if he has conscientious objections thereto.

Wounded Soldiers in London Hospitals.

Mr. TENNANT informed Mr. PERCY HARRIS that on Feb. 12th, 1916, there were in military hospitals in London 2437 wounded soldiers, in auxiliary hospitals 1267, and in civil hospitals 578. In the military hospitals on the same date there were vacant 5346 beds.

Medical Officers in Territorial and Base Hospitals.

Mr. LYNCH asked the Under Secretary for War what reduction had been made in the number of civilian medical officers in the Territorial base hospitals in England; whether any reduction had been made in medical officers in the base hospitals in France; and, if so, to what extent.—Mr. TENNANT replied: Civilian medical officers are employed to a very small extent in the Territorial Force general hospitals. These institutions are staffed by officers of the Territorial Force. The number of Territorial Force officers mobilised varies with the number of patients in the wards. The number of medical officers in the base hospitals in France cannot be reduced. The military authorities consider that the number now so employed has reached an irreducible minimum.

Distribution of Medical Officers in France.

Mr. LYNCH asked the Under Secretary for War whether a certain number of medical officers were attached to each division at the front whose services were limited exclusively to that division, or whether, when a single division was engaged in a struggle of such protracted length that its medical officers and staff were exhausted, medical officers from a neighbouring division which had not been engaged could be drafted over into the exhausted division for its relief and the saving of the wounded.—Mr. TENNANT answered: What my honourable friend suggests not only can be done but is done. It is the duty of the higher military authorities to distribute the medical officers under their command so as to meet the various exigencies which may arise. The watertight compartment arrangement is obviously undesirable.

Advisory Board for Army Medical Services.

Replying to Mr. LYNCH, Mr. TENNANT said that the unofficial members of the Advisory Board for Army Medical Services were Professor Kenwood, Sir John Rose Bradford, Professor Leonard Hill, Sir Anthony Bowlby, and Sir Charles Cameron. Sir A. Bowlby and Sir J. R. Bradford represented surgical and medical knowledge respectively.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

CARLILL, HILDRED, M.D. Cantab., M.R.C.P. Lond., temporary Surgeon, R.N., from H.M.S. *New Zealand*, has been appointed Neurologist to the Royal Naval Hospital, Haslar.

MAYSTON, J. H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Hackney District of the county of London.

MERRICK, W. J., M.B., Ch.B. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Castleknock District of the county of Dublin.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).
When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor.

BOLTON INFIRMARY AND DISPENSARY.—Female Second House Surgeon. Salary £200 per annum, with apartments, board, and attendance.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months. Salary £150 per annum and extras, with board, lodging, and washing.

BRADFORD, CITY OF.—Temporary Female Medical Officer. Salary 8 guineas per week.

BRISTOL GENERAL HOSPITAL.—Casualty House Surgeon for six months or three months. Salary at rate of £175 per annum, with board, residence, &c.

BRISTOL ROYAL INFIRMARY.—House Physicians and House Surgeons. Salary at rate of £120 per annum, with board, apartments, and laundry.

BURNLEY, VICTORIA HOSPITAL.—House Surgeon. Salary £160 per annum, with residence, board, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £150 per annum, with board, residence, and washing.

DOUGLAS, ISLE OF MAN, ASYLUMS BOARD.—Medical Superintendent of Isle of Man Lunatic Asylum and Medical Officer of Home for Poor. Residence, with fuel, light, and water provided.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £120 per annum, with residence, board, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £150 per annum, with board, residence, and laundry.

LEEDS PUBLIC DISPENSARY.—Female Resident Medical Officer. Salary £130 per annum, with board, residence, and laundry.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £200 per annum, with residence and board.

MANCHESTER, COUNTY ASYLUM, Prestwich.—Locum Tenens. Salary as arranged.

NORTHAMPTON GENERAL HOSPITAL.—Two House Surgeons. Salary £150 per annum each, with apartments, board, washing, and attendance.

NORTHAMPTONSHIRE WAR HOSPITAL, Duston, Northampton.—Pathologist and Bacteriologist; also Radiographer. Salary £1 per day, with board, lodging, &c.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Female Assistant Resident Medical Officer for four months. Salary at rate of £60 per annum, with board, residence, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeons for six months. Salary £100 per annum, with board, residence, and washing.

ROCHESTER, KENT, ST. BARTHOLOMEW'S HOSPITAL.—Senior Resident House Surgeon. Salary as arranged.

SHEFFIELD CITY HOSPITALS FOR INFECTIOUS DISEASES.—Assistant Medical Officer at Lodge Moor Hospital. Salary £225 per annum, with apartments, rations, laundry, and attendance.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board and residence.

SITTINGBOURNE, NORTH-EAST KENT JOINT COMMITTEE.—Temporary Assistant Medical Officer of Health.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—House Surgeon. Salary £150 per annum, with residence, board, and washing.

SUNDERLAND ROYAL INFIRMARY.—Female House Surgeon. Salary £150 per annum, with board, residence, and laundry.

UNIVERSITY OF LONDON.—External Examiners.

WINDSOR, KING EDWARD VII. HOSPITAL.—House Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer or House Surgeon for six months. Salary at rate of £150 per annum, with board, rooms, and laundry.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Charlestown, in the county of Mayo; and at Harrow, in the county of Middlesex.

Births, Marriages, and Deaths.

BIRTHS.

CLINE.—On Feb. 24th, at Devonshire House, London-road, Portsmouth, to Dr. Eric Cline and Mrs. Eric Cline (née Constance De Vere Wheeler), a son.

LEA.—On Feb. 25th, at Inglewood, Denmark Hill, the wife of Captain E. T. H. Lea, R.A.M.C., of a son.

MILBURN.—On Feb. 12th, at Biggleswade, Beds, the wife of Lieutenant O. L. Milburn, R.A.M.C., of a son.

TINNE.—On Feb. 22nd, at Oak Cottage, Grassendale, Liverpool, the wife of Dr. P. F. Tinne, of a daughter.

WHITE.—On Feb. 22nd, at West Knoll, Bournemouth, the wife of Edward How White, M.B. Oxon., of a son.

MARRIAGES.

HARNETT—PERIGAL.—On Feb. 23rd, at Holy Trinity Church, New Barnet, W. George Harnett, M.D. Dub., R.A.M.C., to Edith de St. Leu, younger daughter of Dr. and Mrs. Perigal, of New Barnet.

MEYER—STIRLING.—On Feb. 23rd, at St. George's, Hanover-square, W., W. C. B. Meyer, F.R.C.S. Edin., Captain, R.A.M.C. (S.R.), to Alice Elizabeth, daughter of Mr. and Mrs. Alexander Stirling, of Perth.

SMALLMAN—DUNCAN.—On Feb. 29th, at Christ Church, Paddington, Major A. Briton Smallman, D.S.O., R.A.M.C., to Alice Florence, daughter of Mr. and Mrs. R. G. Duncan, of Lindens, Farnborough, Hants.

STEVEN—FRASER.—On Feb. 23rd, at St. Andrew's Church, Ealing, Fraser Steven, M.B., D.S.O., Captain, R.A.M.C., to Gladys, only daughter of the late Major and Mrs. Fraser, of West Ealing.

WARD—GRAHAM.—On Feb. 17th, at the Church of St. John the Baptist, Crowthorne, Espine Francis Ward, M.D., West African Medical Staff, to Mary Theresa, youngest daughter of the late Major-General John Gordon Graham, 1st Royal Dragoons, of Mosskrow and Wyseby, Dumfrieshire.

DEATHS.

BARBER.—On Feb. 19th, suddenly, at Ramsgate, Dr. James White Barber, L.R.C.P. & S. Edin., L.F P.S. Glasg., aged 53 years.

HOOD.—On Feb. 19th, at 33 Casualty Clearing Station, B.E.F., of wounds received on the 15th, George Christie, aged 21 years, Lance-Corporal, 16th Middlesex (Public Schools Battalion), only son of T. A. F Hood, M.B., Ivybank, Blairgowrie.

KEOWN.—On Feb. 26th, at Windsor-road, Ealing, W., David Boyd Keown, M.R.C.S., L.R C.P. Lond., aged 50 years.

PATTISON.—On Feb. 22nd, at a nursing home, Lieutenant Peterswald Pattison, R.A M.C., younger son of the late Gilchrist Gray Pa tison, of Edinburgh.

WILLS.—On Feb. 28th, at Bexhill-on-Sea, Joseph Pearce Wills, M.D. Durh., aged 63 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND UNWIN, LIMITED, London.
War and Civilisation. By the Right Hon. J. M. Robertson, M.P. Price 2s. 6d. net.

BAILLIÈRE, J. B., ET FILS, Paris.
Nouveau Traité de Chirurgie, publié sous la direction des professeurs Le Dentu et Delbet. Vient de Paraitre: Maladies des Organes Génitaux de l'Homme. Par P. Sebileau et P. Descomps, Paris. Price 15 fr.

CAMBRIDGE UNIVERSITY PRESS, London and Edinburgh.
Physical Chemistry for Schools. By Henry John Horstman Fenton, M.A., Sc.D., F.R.S. Price 3s. 6d. net.

CHAPMAN AND HALL, London. WILEY, JOHN, New York.
Water Purification, Plants, and their Operation. By Milton F. Stein, Assoc. Mem Am. Soc., C.E. Price 10s. 6d. net.

CONSTABLE AND CO., LIMITED, London.
Chemical Constitution and Physiological Action. By Professor Dr. Leopold Spiegel (Berlin). Translated, with additions, from the German by C. Luedeking (Leipsic) and A. C. Boylston (Harvard). Price 5s. net.

HILL PUBLISHING CO., 6 and 8, Bouverie-street, E.C., and New York.
American Sewage Practice. Vol. III. Disposal of Sewage. By Leonard Metcalf and Harrison P. Eddy. Price 25s. net.

KEGAN PAUL, TRENCH, TRÜBNER AND CO., London.
Organic Chemistry or Chemistry of the Carbon Compounds. By Victor von Richter. Edited by Professor R. Anschütz and Professor G. Schroeter. Vol. I. Chemistry of the Alepatic Series. Newly translated and revised from the German edition (after Professor E. F. Smith's third American edition) by Percy E. Spielmann, Ph.D., B.Sc., F.I.C., A.R.C.Sc. Price 21s. net.

KIMPTON, HENRY, London and Glasgow.
Notes on Military Orthopædics. By Paul Bernard Roth, M.B., F.R.C.S., Captain, R.A.M.C. (S.R.). Price 1s. net.

LEA AND FEBIGER, Philadelphia and New York.
An Autobiography. By Edward Livingston Trudeau, M.D.

LIVINGSTONE, E. AND S., Edinburgh.
Back Injuries and their Significance under the Workmen's Compensation and other Acts. By Archibald McKendrick, F.R.C.S.E. Price 2s. 6d. net.

UNIVERSITY OF CHICAGO PRESS. (Published in the United Kingdom by the CAMBRIDGE UNIVERSITY PRESS, Fetter-lane, E.C.)
Senescence and Rejuvenescence. By Charles Manning Child. Price $4 net.

WILLOWS' MAGAZINE CO., Kansas City.
Nitro by Hypo. By Edwin P. Haworth, Superintendent of the Willows Maternity Sanatorium. Price $1.

The following magazines, journals, &c., have been received:—Pacific Medical Jou nal, Saint Paul Medical Journal, Journal of Tropical Medicine and Hygiene, Proceedings of the Medical Association of the Isthmian Canal Zone, Review of Neurology and Psychiatry, Journal of Nervous and Mental Diseases, Revue d'Hygiène, Revue de Chirurgie, Revue de Médecine, Annales de Médecine, Archives of Internal Medicine, Revista Médica del Uruguay, Medical Officer, Practitioner, Prescriber, &c.

Notes, Short Comments, and Answers to Correspondents.

TWO TYPES OF WAR-TIME INSANITY.

IN the 103rd annual report for the year 1915 of the Royal Edinburgh Mental Hospital at Morningside Dr. G. M. Robertson states that during the year about 30 officers and soldiers were admitted, the great majority of whom had not been to the front. He continues: "There were two types of insanity which, however, stood out prominently among these admissions. There was first a considerable number of cases of simple mental excitement or mania. It would appear that in these cases the excitement produced by their new environment and military duties, and the high tension under which they lived, had overstepped the normal. They were perfectly lucid in intellect, but very exalted in feeling. They over-estimated their own importance, bragged of their doings, and talked too much. There was definite loss of self-control, and it was owing to childish and foolish conduct that they got into difficulties. They gave us a great deal of trouble in the earlier periods of their treatment, but they all made good recoveries. They constantly suggested to me exaggerated types of Rudyard Kipling's soldiers. The second group of cases consisted of high-grade mental defectives. These men had passed the physical tests when they enlisted, and had answered the few questions addressed to them without displaying their mental deficiency. It was very soon found, however, that owing to their low level of intelligence they were quite unfit to be trained as soldiers or to realise their responsibilities. Had the Mental Deficiency Act been in force for some years, no doubt they would all have been known to the authorities."

THE MIDWIVES ACT (1911) IN TASMANIA.

WE learn from Dr. Arthur H. Clarke's annual report for 1914-15 to the Public Health Department of Tasmania that the Midwives Act (1911) came into operation on Jan. 1st, 1912, and that regulations prescribing the subjects of examination for candidates and giving the control of the conduct of examinations to the Medical Council of Tasmania were issued on June 25th, 1914. The midwifery certificates of seven British and 11 Australian institutions are recognised and approved by the council. Up to June 30th, 1915, only 284 midwives out of 575 on the register took out annual certificates entitling them to practise as midwives during the currency of the certificate. During the period under review 28 additional names were placed on the register. Of these, 69 reside in Hobart, 46 in Launceston, and not more than 12 each in other towns and districts. As in past years, it has been necessary to institute police-court proceedings in certain cases where women were found to be practising in contravention of the Act. Such women enter into unfair competition with the registered midwife and are a menace to the community. The department has spared no effort to bring these persons within the arm of the law, and in this connexion has received able assistance from the officers of police.

MUSTARD WITH FISH.

WE observe that a well-known firm of mustard manufacturers has now started to advertise the benefit or appetising qualities of eating mustard with fish. The advertisement runs: "But try it with a touch of mustard, especially with fish rich in fat. Mustard enables you to digest more of your food than you would without it." In this country the only fish habitually eaten with mustard is herring, but many who, although surprised at the notion, have been induced to try mustard with other fish have soon established the habit. Mustard is a cheap sauce, and mustard with vinegar is a very sensible mixture, as the vinegar counteracts some of the pungent effects of the oils in the mustard. It is interesting to remember the etymology of mustard from the old French moustarde derived from the Latin "*mustum ardens*," or hot must, the must being the verjuice or juice of green grapes or fruit mixed with the mustard.

A GUIDE TO THE LEARNED SOCIETIES.

THE Yearbook of Scientific and Learned Societies of Great Britain and Ireland, 1915 (session 1914-15), is a valuable guide to the work done in science, literature, and art during the year, while it also contains information with regard to officers, dates of meeting, membership, fees, publications, and so forth. The present annual issue, the thirty-second, devotes 66 pages to general science, 37 pages to medicine, and 48 to biology, which includes microscopy and anthropology, while psychology has five pages. The book is compiled from official sources and bears the stamp of accuracy, and the list of papers read and discussed will probably be consulted with increasing frequency as coöperation between science and industry becomes more firmly established. The publishers are Messrs. Charles Griffin and Co., Limited, and the price of the book is 7*s.* 6*d.* net.

Country Practitioner desires some hints regarding the dietetic and postural after-treatment of such cases as Sir John Bland-Sutton describes in his Hunterian lecture on Ulcers New and Old (see THE LANCET, Feb. 19th), and asks whether the lecturer has had any experience of the association between arterio-sclerosis and the frequency of these ulcers which he describes.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.
THURSDAY.—Papers:—Prof. J. W. Nicholson and Mr. T. R. Merton: On the Distribution of Intensity in Broadened Spectrum Line (communicated by Prof. A. Fowler).—Prof. H. C. Plummer: On Prof. Joly's Method of avoiding Collision at Sea (communicated by Prof. J. Joly).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

Wednesday, March 8th.

OCCASIONAL LECTURE (the President of the Society in the chair):
Dr. Leonard S. Dudgeon will deliver a Lecture on
"Personal Experiences on the Gallipoli Peninsula and Eastern Mediterranean while a Member of the War Office Committee for Epidemic Diseases and Sanitation"
in the Robert Barnes Hall, at 5 P.M.
Lantern illustrations.
N.B.—Members of all Sections are invited.

Friday, March 10th.

OCCASIONAL LECTURE (the President of the Society in the chair):
Dr. M. Weinberg (of the Pasteur Institute, Paris) will deliver a Lecture on
'Bacteriological and Experimental Researches on Gas Gangrene" (with Epidiascope demonstration, Cultures, &c.)
in the Robert Barnes Hall, at 5 P.M.
N.B.—Members of all Sections are invited.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY.—9 P.M., Lettsomian Lecture:—Major F. W. Mott: The Effects of High Explosives on the Central Nervous System. (Lecture III.)

RÖNTGEN SOCIETY, Institution of Electrical Engineers, Victoria Embankment, W.C.
TUESDAY.—8.15 P.M., General Meeting. Adjourned Discussion on the Injurious Effects produced by X Rays. The following will take part in the discussion:—Dr. W. H. Nutt, Mr. G. Pearce, Mr. W. E. Schall, Dr. G. B. Batten, Mr. C. R. C. Lyster, Dr. Harvey, Mr. T. Clarke, Major Wilson, and others. Paper:—Mr. A. C. Gunstone: The Use of Inverse Current.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.
WEDNESDAY.—4.30 P.M., Paper:—Mr. C. R. Darling: Optical Appliances in Warfare.

HUNTERIAN SOCIETY, 1, Wimpole-street, W.
WEDNESDAY.—8.30 P.M., Council Meeting. 9 P.M., Paper:—Dr. Langdon Brown: A New Treatment of Diabetes. Discussion invited.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.
THURSDAY.—5 P.M., Milroy Lectures:—Dr. S. G. Moore: Infant Mortality and the Relative Practical Values of Measures directed to Protecting Infant Lives. (Lecture I.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.
MONDAY AND WEDNESDAY.—5 P.M., Hunterian Lectures:—Prof. J. E. R. McDonagh: Links in a Chain of Research on Syphilis.

ROYAL COLLEGE OF PHYSICIANS, EDINBURGH, Hall of the College, Nine Queen-street.
MONDAY AND FRIDAY.—5 P.M., Morison Lectures:—Dr. E. Bramwell: Neurology of the War.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.
MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Gray: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.
TUESDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Addison: Operations. Dr. Banks Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Banks Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women.
THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Gray: Operations. Mr. B. Harman: Diseases of the Eye.
FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Addison: Operations. Dr. Banks Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr Banks Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patients (Mr. E. Gillespie) 2.30 P.M., Medical Out-patients (Dr. T. R. Whipham): Gynæcological Out-patients (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Surgical Operations (Mr. Carson). Clinics:—Medical Out-patients (Dr. A. G. Auld); Surgical Out-patients (Mr. Howell Evans); Nose, Throat, and Ear Out-patients (Mr. C. H. Hayton). Radiography (Dr. Metcalfe). 3.30 P.M., Medical In-patients (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2.30 P.M., Throat Operations (Mr. C. H. Hayton). Children Out-patients (Dr. T. R. Whipham); Eye Out-patients (Mr. R. P. Brooks); Skin Out-patients (Dr. H. W. Barber). 5.30 P.M., Eye Operations (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles) Clinics:—Medical Out-patients (Dr. A. J. Whiting); Surgical Out-patients (Mr. Carson); Radiography (Dr. Metcalfe). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

FRIDAY.—2.30 P.M., Surgical Operations (Mr. Howell Evans). Clinics:—Medical Out-patients (Dr. A. G. Auld); Surgical Out-patients (Mr. E. Gillespie); Eye Out-patients (Mr. R. P. Brooks).

THE THROAT HOSPITAL, Golden square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Dr. K. Sibley: Ionisation Electrolysis.

For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1915 were given in THE LANCET of Dec. 25th, 1915.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1915 are now ready. Bound in cloth, gilt lettered, price 16*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 4*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

ALTERATION OF INLAND SUBSCRIPTION RATES.

OWING to the alteration in the Inland Newspaper Postal rate, the postage on each copy of THE LANCET will in future be 1*d.*, and sometimes 1½*d.*

The revised Inland Subscription rates are:—

One Year	£1	3	3
Six Months	0	13	8
Three Months	0	7	0

The rates for the Colonies and Abroad (thin paper edition) will be as usual:—

One Year	£1	5	0
Six Months	0	14	0
Three Months	0	7	0

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

NEWSPAPERS FOR NEUTRAL COUNTRIES.

THE Secretary of the War Office has issued the following order:—

The public are informed that on and after Saturday, November 6th, newspapers, magazines, books, and other printed publications (other than trade circulars) will not be sent forward to neutral European countries unless posted direct from the office of publishers or newsagents who have obtained permission from the War Office for this purpose. Persons desiring to send newspapers, &c., to neutral European countries should, therefore, give their orders for execution to publishers or newsagents who have obtained such permission.

The Publisher of THE LANCET has obtained the required permission of the War Office, and he will forward copies direct from the Office to any neutral country on receipt of instructions.

ADVERTISEMENT RATES.

Books and Publications ... ...
Official and General Announcements
Trade and Miscellaneous Advertisements and Situations Vacant ...
Five lines and under ... 4*s.* 0*d.*

Every additional line, 6*d.*

Situations Wanted: First 30 words, 2*s.* 6*d.*
Per additional 8 words, 6*d.*

Quarter Page, £1 10*s.* Half a Page, £2 15*s.*
Entire Page, £5 5*s.*

Special terms for Position Pages.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 1st, 1916.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks
Feb. 24	29·776	N.E.	0·09	36	35	32	32	32	Snowing
,, 25	29·750	N.E.	0·12	63	35	28	—	30	Overcast
,, 26	29·610	E.	0·35	45	34	30	32	34	Cloudy
,, 27	29·320	N.E.	0·29	63	38	34	33	35	Overcast
,, 28	29·554	S.W.		59	42	34	34	34	Cloudy
,, 29	29·304	S.W.	0·39	73	46	34	36	39	Cloudy
Mar. 1	29·234	S.W.	0·05	73	45	39	39	40	Raining

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Dr. A. Ashkenny, Basingstoke; Apothecaries Hall of Ireland, Dublin, Registrar of.

B.—Dr. John Brown, Glasgow; British Drug Houses, Lond.; Mr. E. Bougault, Paris; Messrs. W. H. Bailey and Son, Lond.; Dr. H. Boshouwers, Valparaiso; Messrs. Butterworth and Co., Lond.; Boots Pure Drug Co., Nottingham; Messrs. F. P. Baker and Co., Lond.; Board of Agriculture and Fisheries, Lond., Secretary of; Captain H. W. Bayly, R.A.M.C., Uckfield; Mr. T. Bates, sen., Worcester; Dr. G. P. Boddie, Edinburgh; Mr. W. H Battle, Lond.; Major C. Brodribb, Secunderabad; Lance-Corporal E. J. Bland, R.A.M.C., Aylsham.

C.—Mr. R. Creasy, Windlesham; Messrs. E. Cook and Co., Lond.; Messrs. Crossley and Co., Lond.; County Asylum, Prestwich, Superintendent of; Messrs. Casein, Ltd., Lond.; Captain C. Clarke, R.A.M.C., M.E.F.; Messrs. J. and A. Churchill, Lond.; Lieutenant Wm. Campbell, R.A.M.C., Alexandria; Mr. H. A. Collins, Croydon; Dr. Edgar F. Cyriax, Lond.; Dr. H Warren Crowe, Devonport; Mr. Bernard Cridland, Wolverhampton; Country Practitioner; Lieutenant G. W. Christie, R.A.M.C.; Captain Donald E. Core, R.A.M.C.(T.); Dr. W. F. Croll, Aberdeen.

D.—Dr. Vincent Dickinson, Lond.; Messrs. W. Dawson and Sons, Lond.; Denver Chemical Manufacturing Co., Lond.; Dr. H. A. Des Vœux, Lond.; Dr. Robert Donaldson, Reading; Dr. W. M. Dawson, Lond.; Mr. Leonard S. Dudgeon, Lond.

E.—Mr. L. E. Evans, Cobham; Messrs. W. and T. Evans, Cork; Dr. G. N. Edmondson, Newcastle; Messrs. Eleftheroudakis and Barth, Athens; E. C. H.; Dr. F. W. Edridge-Green, Lond.; Dr. William Ewart, Lond.

F.—Dr. R. Fortescue Fox, Lond.; Dr. J. Freeman, Lond.; Factories, Chief Inspector of, Lond.; Messrs. Fletcher, Fletcher, and Co., Lond.; Messrs. Fairchild Bros. and Foster. Lond.; F. T. R.

G.—Dr. Charles Goring, Lond.; Dr. Alfred S. Gubb, Aix-les-Bains; Dr. J. F. Gill, Grimsby; Messrs. Gordon and Gotch, Lond.; Messrs. W. Gimber and Son, Lond.

H.—Dr. L. Haulet, Glasgow; Dr. John Haddon, Denholm; H. W. Harding, Walthamstow; Messrs. Howards, Ilford; Messrs. A. Heywood and Son, Manchester; Heigham Hall, Norwich, Medical Superintendent of; Dr. Eardley Holland, Lond.; Captain C. T. W. Hirsch, R.A.M.C.; Dr. Philip Harper, Fiji.

J.—Dr. F. H. Jones, Nottingham; Mr. L. Jablonski, Paris; Dr. E. Jones, Lond.

K.—Mr. H. Kimpton, Lond.; King Edward VII. Hospital, Windsor, Secretary of; Mr. D. W. Kemp, Leith.

L.—Mr. J. Lorimer, Lond.; Messrs. H. K. Lewis and Co., Lond.; Liverpool Corporation Stationery Department, Superintendent of; Local Government Board, Lond., Secretary of; Captain A. H. Lowe, R.A.M.C.(T.), France; Dr. C. E. Lakin, Lond.; Mrs. A. H. Lowe, Lond.

M.—Dr. F. C. Martley, Lond.; Ministry of Munitions, Lond.; Captain R. MacGregor, France; Maltine Manufacturing Co., Lond.; Modern Hospital Publishing Co., St. Louis, Mo., President of; Surgeon J. H. B. Martin, R.N., Sleaford; Messrs. C. Mitchell and Co., Lond.; Mr. J. Mackay, Giffnock; Messrs. J. Menzies and Co., Edinburgh; Dr. J. A. Menzies, Folkestone; Medical Research Committee, Lond.; Maruzen Co., Tokyo; Dr. F. C. Madden, Cairo; Mysore Government, Bangalore, Senior Surgeon to the; Mr. I. Meller, Lond.; Mental After-Care Association, Lond., Secretary of; Mr. W. G. McDowell, Lond.; Dr. R. Foster Moore, Lond., Mr. J. Y. W. MacAlister, Lond.; Mr. J. E. R. McDonagh, Lond.; Dr. E. MacGowan, Lond.

N.—National Association for the Feeble-Minded, Lond., Secretary of; North Devon Infirmary, Barnstaple, Secretary of; N., Barnes; National Health Insurance, Commission (England), Solicitor's Department, Lond.

O.—Dr. C. O'Gorman, Bristol; Ospedale Maggiore, Cremona, Inspector of.

P.—Messrs. W. J. Parrett, Sittingbourne; Post-Graduate College, Hammersmith, Secretary of; Lieutenant-Colonel D. N. Parakh, I.M.S., Poona; Captain H. M. Pierpoint, I.M.S., Port Said.

Q.—Queensland, Commissioner of Public Health for, Brisbane.

R.—Mr. T. H. Rushton, Grimsby; Dr. J. N. Richardson, Bessbrook; Messrs. G. Robertson and Co., Lond.; Mr. J. F. Rey, Bognor; Royal Edinburgh Mental Hospital, Morningside; Royal Institution of Great Britain, Lond.; Royal Free Hospital, Lond., Secretary of; Captain J. Race, C.A.H.C., Ottawa; Dr. Henry Rundle, Southsea.

S.—Dr. Eleanor Shepheard, Lond.; Sanitary Publishing Co., Lond.; Mr. B. H. Sormani, Amsterdam; Stern Sonneborn Oil Co., Lond.; Mr. A. N. Sen, Kandi; Captain Herbert Smith, R.A.M.C., France; Messrs. A. Schonfield and Co., Glasgow; Mr. H. Samson, Lond.; Society of Apothecaries of London, Secretary of; Mr. Harold Spence, Lond.; Staffordshire County Council Education Committee, Director of, Stafford; Southport Infirmary, Secretary of; Shakespeare Festival of Mercy, Lond., Hon. Secretary of; Professor J. Lorrain Smith, Edinburgh; Messrs. W. H. Smith and Son, Lond.; Salford Royal Hospital, Secretary of.

T.—Mr. E. Hastings Tweedy, Dublin; Miss R. Turner, Lond.; Dr. John Tatham, Old Oxtead; Mr. J. Thin, Edinburgh.

V.—Victoria Hospital, Burnley, Secretary of; Dr. B. Randall Vickers, Wuchow.

W.—Mr. R. L. Wason, Clevedon; Messrs. Wm. Whiteley, Lond.; Messrs. Jas. Willing, Lond.; Messrs. Ernest Webb and Beynon, Lond.; Rev. W. E. Wall, Cardiff; Mr. G. A. Wright, Manchester; Dr. Helen Wilson, Sheffield; Lieutenant-Colonel W. H. Willcox, R.A.M.C.

Letters, each with enclosure, are also acknowledged from—

A.—Ardath Tobacco Co., Lond.; Dr. H. J. Alford, Taunton; Mr. E. Arnold, Lond.; A. F. C.; Ancoats Hospital, Manchester, Secretary of.

B.—Mr. C. O. Bastian, Lond.; Mr. A. E. Bartrum, Bewdley; Mr. H. Butterfield Northampton; Mr. H. A. Burridge, Lond.; Dr. D. Buxton, Lond.; Captain A. W. Byrne, R.A.M.C., France; Mr. J. Barlow, Glasgow; Mr. A. Bernard, Lond.; Dr. A. Brown, Lond.; Dr. W. G. Bendle, Abingdon; Dr. G. Booth, Chesterfield; Captain J. A. Bennett, R.A.M.C., Southsea; Miss V. Brown, Lond.; Mr. E. Bland, Aylsham; Mr C. Boulangé, Paris; Messrs. J. S. Broadbent and Co., Douglas.

C.—Dr. C. Clarke, Hereford; Messrs. J. and A. Carter, Lond.; County Asylum, Whittingham, Clerk to the; C. C. B.; Chester Royal Infirmary, Secretary of; Dr. Alice Corthorn, Lond.; C. H.; Croydon Corporation, Accountant to the; The Coppice, Nottingham.

D.—Lieutenant C. W. J. Dunlop, R.A.M.C., Dover; Lieutenant C. R. Denny, R.A.M.C., France; Mr. H. R. Dunville, Lond.; Derbyshire Hospital for Sick Children, Derby, Secretary of.

E.—Mr. E. Evans, Felinfach; Mrs. Edmunds, Lond.; E. W. S.

F.—Dr. P. J. Freyer, Lond.; Mr. J. C. R. Freeborn, Oxford.

G.—Gravesend Hospital, Secretary of; G. C. H.; Miss Goffe, Lond.

H.—Mr. J. Heywood, Manchester; Mr. G. W. Homan, Lichfield; Dr. A. Howell, Cardiff; Lieutenant Hutton, R.A.M.C., France; H. S.; Mr. A. Harrison Hall, Birmingham; Messrs. C. Hearson and Co., Lond.; Mr. R. Hitchens, Lond.

I.—Lieutenant A. C. Inman, R.A.M.C., Lond.; Miss Ivens, France.

J.—Rev. R. J. Jones, Aberdare; Rev. R. E. Jones, Aberdare; J. L. D.; J. H. W.

K.—King Edward VII. Sanatorium, Midhurst, Secretary of; K. D. M.

L.—Mr. T. S. Logan, Stone; Sir H. B. Longhurst, Hampton Hill; Liverpool Stanley Hospital, Secretary of.

M.—Mrs. Mallard, Ilkley; Captain J. J. Magner, R.A.M.C., Egypt; Mr. D. G. Monair, Blairgowrie; Dr. A. A. Matheson, Edinburgh; Dr. A. F. Miller, Kentville, Nova Scotia.

N.—Northamptonshire War Hospital, Northampton, Secretary of; Newcastle-upon-Tyne Corporation, Clerk to the; New South Wales Government Offices, Lond., Secretary to the Agent General; New Duff House Sanatorium, Banff, Secretary of; New Mental Nurses' Co-operation, Lond.

P.—Major L. Phillips, R.A.M.C., Egypt; Mr. F. H. Preston, Brill; Dr. J. H. Paterson, Millbrook; P. H. S.

R.—Richmond Gas Stove Co., Lond.; Dr. M. J. Ryan, Crumlin; Mr. W. Ramsay, Melbourne; Captain L. Bruce Robertson, C.A.M.C., France; Rotherham Hospital, Secretary of; Royal Medical Benevolent Fund, Lond., Secretary of; R. W. S.B.

S.—Dr. J. A. Struthers, Bootle; Messrs. Spiers and Pond, Lond.; South Devon and East Cornwall Hospital, Plymouth, Secretary of; Messrs. W. H. Smith and Son, York; Swansea Corporation, Clerk to the; Solac, Ltd., Lond.; Surrey Education Committee, Kingston-upon-Thames, Secretary of; Captain F. B. Smith, R.A.M.C., Ilkley; Surgical Manufacturing Co., Lond.; Silex, Barnsley.

T.—Thresh Disinfector Co., Lond.; Mr. J. Tubb-Thomas, Trowbridge; Messrs. W. Thacker and Co., Lond.; Dr. J. C. Thomas, Canterbury, Australia.

V.—Messrs. Van Houten, Lond.

W.—Dr. V. G. Ward, West Byfleet; Mr. C. F. Weeks, Liverpool; Mr. T. F. Wyse, Lond.; Messrs. B. West and Beynon, Lond.; Mr. A. Wilson, Lond.; Wolverhampton, &c., General Hospital, Secretary of; Warneford General Hospital, Leamington Spa, Secretary of; Miss Walker. Lond.; Dr. R. F. C. Ward, Harrogate; Dr. E. W. Wood-Mason, Freetown; Dr. J. J. Wallace, Lyminge; Messrs. Williams and Norgate, Lond.; Dr. G. R. Ward, Sevenoaks; Miss Wright, Lond.; Dr. J. A. Walt, Tynemouth; Dr. W. Webster, Newcastle, Staffs.

EVERY FRIDAY.

THE LANCET.

PRICE SIXPENCE.

SUBSCRIPTION POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 3 3	One Year	£1 5 0
Six Months	0 13 8	Six Months	0 14 0
Three Months	0 7 0	Three Months	0 7 0

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 0
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.
Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.
Special terms for Position Pages.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to advertisements; copies only should be forwarded.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Cheques and Post Office Orders (crossed "London County & Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to advertisements or subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agents for the Advertisement Department in France—SOCIÉTÉ EUROPÉENNE DE PUBLICITÉ, 10, Rue de la Victoire, Paris.